DOCUMENT RESUME

ED 207 182 EA 013 945

TITLE	School Facilities Development Procedures Manual.
INSTITUTION	Washington Office of the State Superintendent of Public Instruction, Olympia.
PUB DATE	May 81
NOTE	172p.; For a related document, see EA 013 946.
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	Construction Costs; *Cost Effectiveness; *Educational Facilities Design; *Educational Facilities Planning; Elementary Secondary Education; Facility Guidelines; *School Construction; *State Standards
IDENTIFIERS	*Washington

ABSTRACT

Procedural and technical guidelines are offered for cost-effective planning and construction of new public school physical plant facilities for the state of Washington. The manual provides a chronological guide of the many phases of planning, financing, designing, constructing, maintaining, and operating school plant facilities. In addition, the services offered by the Division of Financial Services and the procedures required for obtaining state assistance from the Washington State Board of Education are explained. Intended recipients include school district officials and employees; design professionals; state, county, and city officials; and others interested in planning and constructing school buildings. The manual takes the form of sixteen individually bound chapters. (Author/MLF)

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SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

EA 013 945

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Foreword

The cost of building new school facilities has risen from about $9.50 per square foot to over $60.00 per square foot in the 30 years since 1950. There were bitter complaints about the "excessive cost" of our schools in 1950 and these complaints have mounted as costs continue to rise.

The 1977 First Extraordinary Session of the Washington State Legislature established the Washington School Facilities Cost Stabilization Program within the office of the State Superintendent of Public Instruction in order to more fully examine the reasons for cost increases and to develop methods of containing or controlling them. The goals of the program are:

(1) To stabilize school construction, maintenance and operating costs.

(2) To reduce school design and construction time.

(3) To provide high quality schools capable of being readily and economically adapted to changing school and community needs.

To assist in accomplishing these goals, I appointed a broad-based advisory board. This School Facilities Cost/Advisory Board has since been continuously studying the processes of school facility planning, construction, maintenance and utilization.

This School Facilities Development Procedures Manual is one of the results of the activities of this Advisory Board and contains many of the ideas generated by the Board in its deliberations. The manual will provide a chronological guide through the many phases of planning, financing, designing, constructing, maintaining and operating school plant facilities in Washington.

It is my hope that this manual will provide a truly valuable reference tool to its users, assisting them in developing school facilities in a cost-effective manner.

Frank B. Brouillet

Dr. Frank B. Brouillet
Superintendent of Public Instruction
State of Washington

Preface

This, the First Edition of the School Facilities Development Procedures Manual, has been prepared by the Office of the Superintendent of Public Instruction of the State of Washington and is financed with funds allocated by law for the Washington School Facilities Cost Stabilization Program.

Compilation of this edition was directed by the Cost Stabilization Program Staff. The School Facilities Cost/Advisory Board and its Manual Sub-Committee were actively engaged in the detailed review of the contents of this manual. This edition reflects the input from a broad spectrum of knowledgeable people, based upon their collective experience.

As is true with any work of this nature, this manual contains compromises where divergent views had to be reconciled. Generally these have to do with differences in established local practice with no clear-cut superiority of one method over the other, and quality has not been sacrificed for the sake of uniformity. This manual represents an effort to obtain maximum uniformity and efficiency of school facility planning design and construction administration practices among Washington School Districts thus obtaining more cost-effective utilization of school building funds.

Appreciation is expressed to all who contributed their expertise and their many hours of time to this work and specifically to: Mr. Tom Gerard, P.E. and his Manual Sub-Committee; Mr. Robert Olson, A.I.A., Technical Writer and Editor; and Ms. Charlotte Manning, Director of Agency Communications, S.P.I. for their valued assistance in the organization, editing, assembly and printing of this work.

Harvey C. Childs, A.I.A.
Technical Director,
School Facilities Cost Stabilization Program
Office of the Superintendent of Public Instruction

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

TABLE OF CONTENTS

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

MAY, 1981

Chapter 1
Introduction

Sec. 101 Purpose
Sec. 102 Washington State Board of Education
Sec. 103 Washington State Superintendent of Public Instruction
Sec. 104 Financial Services Division, SPI
Sec. 105 Services Available From Other Divisions, SPI
Sec. 106 Washington School Facilities Cost Stabilization Program
Sec. 107 School Facilities Cost/Advisory Board
Sec. 108 Educational Service Districts
Sec. 109 Distribution

Chapter 2
Advance Planning
Educational Facilities Survey

Sec. 201 Responsibility
Sec. 202 Participatory Planning
Sec. 203 Financial Assistance for Planning
Sec. 204 Educational Facilities Survey
Sec. 205 The Community Analysis
Sec. 206 School Enrollment Study
Sec. 207 The Educational Plan
Sec. 208 Evaluation of Existing Facilities
Sec. 209 The Master Plan
Sec. 210 Assessment of Financial Resources
Sec. 211 Recommendations
Sec. 212 Interpretation of the Survey

Chapter 3
Site
Selection and Acquisition

Sec. 301 The Site
Sec. 302 Site Selection Criteria
Sec. 303 Site Approval — State Board of Health
Sec. 304 Site Selection Process
Sec. 305 Site Acquisition
Sec. 306 Timing of Acquisition of Property
Sec. 307 Funding Acquisition of Property
Sec. 308 Survey of Essential Site Data

Chapter 4
State Assistance
Request and Acknowledgement

Sec. 401 General Information
Sec. 402 Basic Policy of the State Board of Education
Sec. 403 Application for State Assistance — Notice of Intent (Form B-1)
Sec. 404 Basic State Support Level
Sec. 405 Additional State Assistance
Sec. 406 Study of School Housing Situation
Sec. 407 Use of Consultants
Sec. 408 Participative Financing of Secondary School Facilities by Non-High School Districts
Sec. 409 Washington School Facilities Cost Stabilization Program
Sec. 410 Early Bidding Procedures
Sec. 411 Acknowledgement of Notice of Intent (Form B-2)

Chapter 5
Securing Financing
Bond Issue/Election Procedures

Sec. 501 Financing Capital Improvements
Sec. 502 Use of Consultants
Sec. 503 Step One - At Least 60 Days Prior to Election Day
Sec. 504 Step Two - At Least 50 Days Prior to Election Day
Sec. 505 Winning Bond Elections
Sec. 506 After a Successful Bond Election
Sec. 507 Investment of Funds

Chapter 6
Selection of
Design Team

Sec. 601 The Team Concept
Sec. 602 Planning Resources
Sec. 603 Selection of Prime Designer
Sec. 604 Methods of Selection
Sec. 605 The Recommended Procedure for Comparative Selection
Sec. 606 Fees
Sec. 607 State Participation in Fees
Sec. 608 Contracts
Sec. 609 Consultant Subcontracts
Sec. 610 Owner's Project Representative
Sec. 611 Verification of Design Team
Sec. 612 Design Professionals' Insurance

Chapter 7
Educational Specifications

Sec. 701 Description
Sec. 702 Statement of Purpose
Sec. 703 Characteristics of the Educational Specifications
Sec. 704 Development Team
Sec. 705 Use of Consultants
Sec. 706 Requirements for State Assisted Projects
Sec. 707 Components of Educational Specifications

Chapter 8
Design

Sec. 801 Participants
Sec. 802 Schematic Design
Sec. 803 Design Development
Sec. 804 Site Development Planning and Design
Sec. 805 Environmental Checklist
Sec. 806 Economy in Design
Sec. 807 Value Engineering
Sec. 808 Systems Building/Integrated Design
Sec. 809 Life Cycle Costing
Sec. 810 Energy Conservation Reports
Sec. 811 Utilizing Early Bidding Procedures
Sec. 812 Barrier Free Design
Sec. 813 Design for Safe Schools
Sec. 814 Types of Contracts
Sec. 815 Codes and Regulations
Sec. 816 Environmental Sanitation Requirements

Chapter 9
State Assistance
Application, Approval and Authorization

Sec. 901 Applications for State Assistance - Form B-3
Sec. 902 Preliminary Fiscal Data and Documents
Sec. 903 Design Development Phase Drawings and Related Data
Sec. 904 Certification of Financial Status of School District
Sec. 905 Transmittal of Application
Sec. 906 Consideration of Application
Sec. 907 Approval of Application
Sec. 908 Form B-4, Authorization to Prepare Construction Documents
Sec. 909 Form B4a, Authorization to Prepare Construction Documents, Early Bidding
Sec. 910 Form B-4b, Provisional Allotment of State Funds, Early Bidding
Sec. 911 Time Limit for Advancement of Projects

Chapter 10
Construction Documents

Sec. 1001 Types of Documents
Sec. 1002 Bidding Requirements
Sec. 1003 Bidding Procedures
Sec. 1004 Contract Documents
Sec. 1005 The Role of the School District
Sec. 1006 State Building Code
Sec. 1007 Insuring Against Risk
Sec. 1008 Bonds
Sec. 1009 Registration of Contractors
Sec. 1010 Resident Employees and Prevailing Wages
Sec. 1011 Labor Requirements
Sec. 1012 Equal Opportunity and Affirmative Action Programs
Sec. 1013 Safety and Health Regulations
Sec. 1014 Offshore Items

Chapter 11
State Assistance
Submittal, Approval and Authorization

Sec. 1101 Approvals Required
Sec. 1102 Health Agency Jurisdiction
Sec. 1103 Microfilming Bid Documents
Sec. 1104 Form B-5, Certification of Construction Documents and Final Cost Estimate
Sec. 1105 State Board Review
Sec. 1106 Form B-6, Approval and Authorization

Chapter 12
Bidding

Sec. 1201 Bidding Public Works
Sec. 1202 Contract Awarding Methods
Sec. 1203 Advertising for Bids
Sec. 1204 Revisions to Construction Documents During Bidding
Sec. 1205 Opening of Bids

Chapter 13
Evaluation and Awards

Sec. 1301 Evaluation of Bidders
Sec. 1302 Evaluation of Proposals
Sec. 1303 Negotiation
Sec. 1304 Form B-7, Transmittal of Bid Documents
Sec. 1305 Form B-8, Final Allotment of State Funds
Sec. 1306 Construction Contracts

Chapter 14
Construction

Sec. 1401 Project Management - Participants
Sec. 1402 Documents Required Prior to Start of Construction
Sec. 1403 Cash Flow Schedule
Sec. 1404 Construction Scheduling
Sec. 1405 Quality Control Procedures
Sec. 1406 Preconstruction Conference
Sec. 1407 Job Progress Meetings
Sec. 1408 Prevailing Wage Statements
Sec. 1409 Affirmative Action Requirements
Sec. 1410 Progress Payments and Retainage
Sec. 1411 Payment Procedures - State Participation
Sec. 1412 Change Orders - Field Orders
Sec. 1413 Form B-8a, Approval of Revised Costs or Financing
Sec. 1414 Arbitration
Sec. 1415 Mediation
Sec. 1416 Warranties
Sec. 1417 Substantial Completion
Sec. 1418 Claims for Damages/ Liquidated Damages
Sec. 1419 Final Completion and Acceptance
Sec. 1420 Final Payment

Chapter 15
Maintenance and Operation

Sec. 1501 Occupancy and Use
Sec. 1502 Orientation
Sec. 1503 The Planners' Role In Orientation
Sec. 1504 User Orientation Program
Sec. 1505 Public Information Programs
Sec. 1506 User's Manual
Sec. 1507 Planned Maintenance
Sec. 1508 Establishing A Planned Maintenance Program
Sec. 1509 Implementing Planned Maintenance

Chapter 16
Project Evaluation

Sec. 1601 Results of the Project
Sec. 1602 Post-Occupancy Evaluation
Sec. 1603 Conclusion

Additional Information

SCHOOL FACILITIES

INTRODUCTION

1

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

School Facilities Development Procedures Manual

Chapter 1 Introduction

Chapter 2 Advance Planning - Educational Facilities Survey

Chapter 3 Site - Selection and Acquisition

Chapter 4 State Assistance - Request and Acknowledgement

Chapter 5 Securing Financing - Bond Issue/Election Procedures

Chapter 6 Selection of Design Team

Chapter 7 Educational Specifications

Chapter 8 Design

Chapter 9 State Assistance - Application, Approval and Authorization

Chapter 10 Construction Documents

Chapter 11 State Assistance - Submittal, Approval and Authorization

Chapter 12 Bidding

Chapter 13 Evaluation and Awards

Chapter 14 Construction

Chapter 15 Maintenance and Operation

Chapter 16 Project Evaluation

Additional Information

The intent of this publication is to provide a source of information that will be of assistance in planning for school facilities and to indicate methods for processing school construction projects. Local laws, regulations or other considerations must be carefully evaluated by all persons responsible for school facility development activities in order to appropriately and effectively utilize the information contained herein.

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 1

INTRODUCTION

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

FEBRUARY, 1981

Table of Contents

Sec. 101 Purpose

Sec. 102 Washington State Board of Education

Sec. 103 Washington State Superintendent of Public Instruction

Sec. 104 Financial Services Division, SPI

Sec. 105 Services Available From Other Divisions, SPI

Sec. 106 Washington School Facilities Cost Stabilization Program

Sec. 107 School Facilities Cost/Advisory Board

Sec. 108 Educational Service Districts

Sec. 109 Distribution

Appendix

Sec. 101

Purpose

It is the purpose of this manual to offer procedural and technical guidelines for effective action in planning and constructing new public school physical plant facilities in a cost-effective manner.

This manual is also intended to provide a guide to the services offered by the Office of the Washington State Superintendent of Public Instruction, Division of Financial Services, and to the procedures required for obtaining state assistance from the Washington State Board of Education.

Sec. 102

Washington State Board of Education

The State Board of Education is comprised of 14 laymen, two from each congressional district of the state not including any congressional district at large, elected by members of the boards of directors of local school districts therein, and one non-voting member elected by board members of the private schools in the state. Each member of the State Board of Education is elected for a term of six years. The State Superintendent of Public Instruction is the ex-officio president and the chief executive officer of the State Board of Education.

The State Board of Education has the power and duty to prescribe rules and regulations governing the administration, control, terms, conditions, and disbursements of allotments to school districts to assist them in providing school plant facilities. These rules and regulations can be found in Chapter 180-30 of the Washington Administrative Code. This Chapter 180-30 is included in the Additional Information portion of this manual.

Sec. 103

Washington State Superintendent of Public Instruction

The State Superintendent of Public Instruction is a non-partisan elected executive office of the State of Washington. The State Superintendent is elected for a term of four years.

The State Superintendent of Public Instruction's powers and duties include the following:

A. To have supervision over all matters pertaining to the public schools of the state.
B. To report to the governor and the legislature such information and data as may be required for the management and improvement of the schools.

Sec. 104

Financial Services Division, SPI

Technical assistance in facilities planning, planning school district organizational improvements, energy conservation, and obtaining financial aid for construction is available from program supervisors and consultants of the School Facilities and Organization Section of the Financial Services Division, Office of the Superintendent of Public Instruction. This technical assistance includes the following:

A. Consult with, and advise, school administrators, boards of directors, county committees, design professionals and others.

B. Preparation of biennial capital budget requests for the State Board of Education.

C. Review applications for, and other documents pertinent to, state financial assistance in school facility construction.

D. Determine amounts of financial participation and state fund allocations for school facility construction for the State Board of Education.

E. Review applications for long-range planning grants for studies of school district building needs and preparing recommendations as appropriate for the State Board of Education.

The School Facilities and Organization Section also administers the Washington School Facilities Cost Stabilization Program.

Sec. 105

Services Available From Other Divisions, SPI

Technical assistance in planning, designing and revising facilities plans, as well as development of educational or program specifications is available from program supervisors of other divisions of the Office of the Superintendent of Public Instruction.

Program areas covered by this technical assistance relate to:

A. Foreign languages.

B. Learning resources.

C. Science.

D. Traffic safety.

E. Health and physical education.

F. Art.

G. Music.

H. General classrooms and office.

I. Vocational education.

J. Industrial arts education.

K. Career, community and adult education.

L. Food service.

M. Attendance and activities.

Sec. 106

Washington School Facilities Cost Stabilization Program

The 1977 First Extraordinary Session of the Washington State Legislature established the Washington School Facilities Cost Stabilization Program within the Office of the State Superintendent of Public Instruction.

The goals of the program are:

A. To stabilize school construction, maintenance and operating costs.

B. To reduce school design/construction time.

C. To provide high quality schools capable of being readily and economically adapted to changing school and community needs.

Sec. 107

School Facilities Cost / Advisory Board

In 1978, the State Superintendent of Public Instruction, Dr. Frank B. Brouillet, appointed an advisory board to advise and assist the cost stabilization program staff in developing methods and ways of meeting the goals of the program.

The advisory board consists of representatives of the many boards, organizations, professions, construction trades, planners, maintenance officials, and producers involved in planning, design, and construction of school plant facilities. The appendix to this chapter lists these organizations and their representatives.

This School Facilities Development Procedures Manual was created as a part of the activities of the advisory board through the guidance of its manual sub-committee.

Sec. 108

Educational Service Districts

The State of Washington has been geographically divided into nine units which are designated as Educational Service Districts. These districts are formed for the purpose of facilitating more rapid and efficient adaptation to changing economic conditions and educational needs throughout the state in order to enhance the equalization of educational opportunities.

An Educational Service District has the ability to support an administrative unit to provide a program of educational services including, but not limited to, leadership and consultant services in administration and finance, in-service education programs for teachers and administrators, special services for the handicapped and educationally talented, planning of school facilities, counseling and guidance, instructional materials, and development of projects and proposals under various federal acts.

Sec. 109

Distribution

This manual is intended for distribution to school district officials and employees, design professionals, state, county, and city officials, and others interested in planning and constructing school buildings.

This manual is available in the form of individually bound chapters or as a complete set with binder. For information concerning additional copies and costs, please contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W. (Mail Stop FG-11), Tumwater, Washington 98504, telephone (206) 753-6729.

Appendix

A. WASHINGTON STATE BOARD OF EDUCATION

Dr. Frank B. Brouillet, State Superintendent of Public Instruction and Ex-Officio President of the State Board of Education

Grant L. Anderson, Tacoma, Vice President of the State Board of Education, term expires January 1984.

Dr. Wm. Ray Broadhead, Secretary of the State Board of Education.

Edward J. Armbruster, Manson, term expires January 1985.

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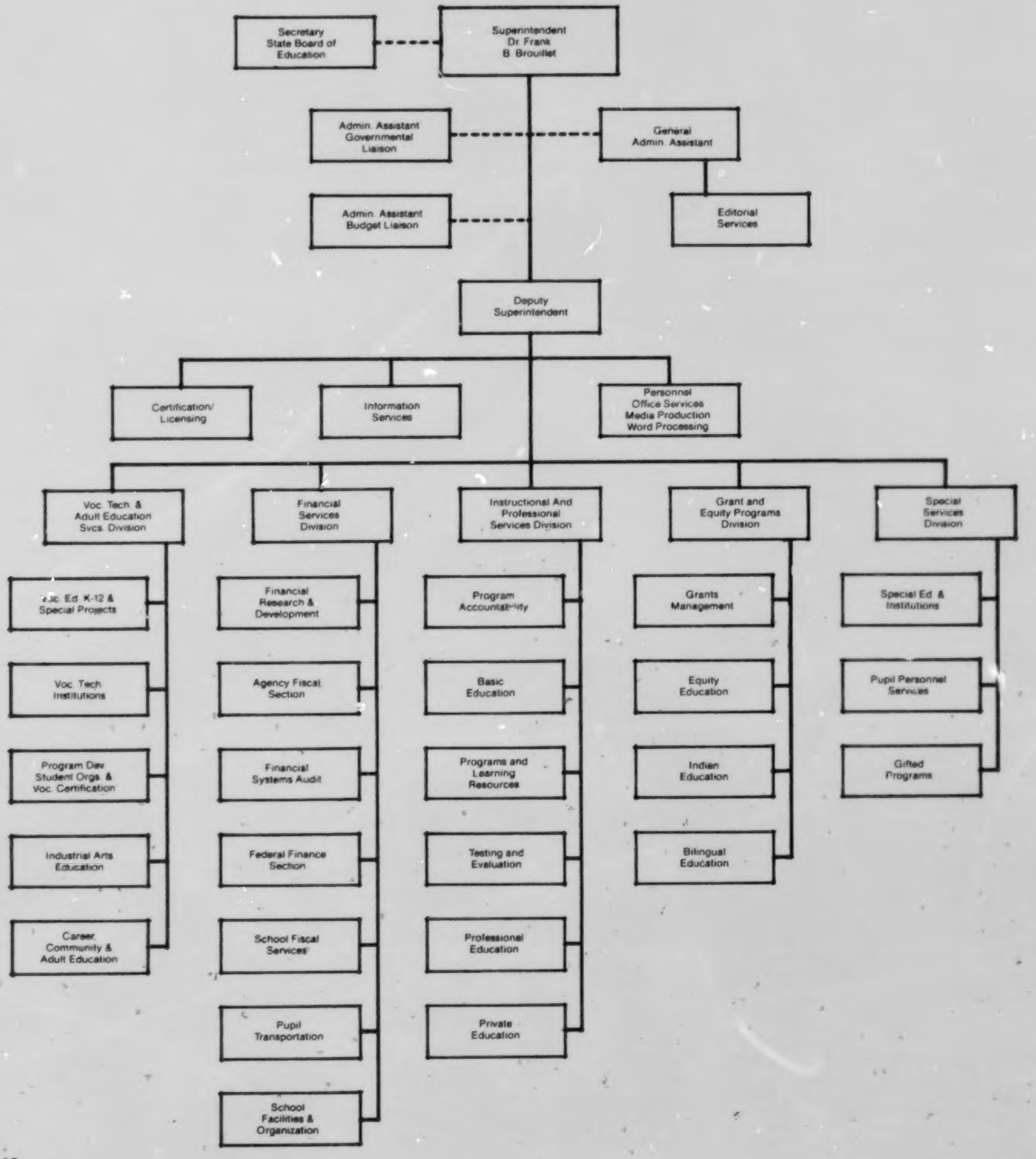
Ollie Mae Wilson, Northport, term expires January 1983.

Lee H. Bayley, Spokane, (non-voting), term expires January 1987.

B. ORGANIZATIONAL CHART

Office of the Superintendent of Public Instruction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Financial Research & Development
Agency Fiscal Section
Financial Systems Audit
Federal Finance Section
School Fiscal Services
Pupil Transportation
School Facilities & Organization
Program Accountability
Basic Education
Programs and Learning Resources
Testing and Evaluation
Professional Education
Private Education
Grants Management
Equity Education
Indian Education
Bilingual Education
Special Ed. & Institutions
Pupil Personnel Services
Gifted Programs

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Gerald Giles, Mechanical Contractors Association of Washington

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ADVANCE PLANNING

educational facilities survey

2

SCHOOL FACILITIES DEVELOPMENT
PROCEDURES MANUAL

CHAPTER 2

ADVANCE PLANNING

EDUCATIONAL FACILITIES SURVEY

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

JANUARY, 1981

Table of Contents

Sec. 201 Responsibility

Sec. 202 Participatory Planning

Sec. 203 Financial Assistance for Planning

Sec. 204 Educational Facilities Survey

Sec. 205 The Community Analysis

Sec. 206 School Enrollment Study

Sec. 207 The Educational Plan

Sec. 208 Evaluation of Existing Facilities

Sec. 209 The Master Plan

Sec. 210 Assessment of Financial Resources

Sec. 211 Recommendations

Sec. 212 Interpretation of the Survey

Appendix

Exhibit

Sec. 201

Responsibility

All well designed things — including educational programs and school buildings — develop logically from an understanding of needs to be fulfilled and purposes to be served. This understanding occurs through the local school board's process of formulating a statement of goals for education and a comprehensive plan for the future and by regularly reviewing the goals and plan as time goes by. For the purpose of this manual we shall call the statement of goals and plan for the future an "Educational Facilities Survey".

The educational facilities survey should not be confused with the educational specifications discussed in Chapter 7. These are separate documents serving different functions in the planning process.

The responsibility for initiating an educational facilities survey rests with the local school board and its administrators. The development of the survey is best accomplished by a team consisting of, but not limited to:

A. Local citizens.
B. School staff members.
C. Students.
D. University and state educational agency personnel.
E. Architects.
F. Educational consultants.

Sec. 202

Participatory Planning

There is a great need to encourage wide involvement of citizens, staff and students in setting the purposes of education. Some systematic method of insuring wide participation should be established. This "participatory planning" brings together persons who typically have not worked together before. It involves consumers and persons from many agencies, organizations, and groups that have a stake in the problem and in the solution. Such participation should build a sense of ownership on the part of all those involved.

Sec. 203

Financial Assistance For Planning

Financial assistance for advance planning is available through a long-range planning grant to any qualifying local school district which wishes to apply for one through the Office of the Superintendent of Public Instruction. An SPI consultant is available to assist and advise the school district in qualifying and applying for such assistance.

Sec. 204

Educational Facilities Survey

The initial survey should be comprehensive, dealing with all factors related to educational facilities. In subsequent surveys, it is legitimate to study only one or two problem areas. The entire survey should be reviewed and updated on a regular basis after adoption.

Major items which should be considered in the survey are:

A. Analysis of the community's characteristics and educational needs.

B. Determination of pupil population and characteristics.

C. Description of the educational program.

D. Appraisal of the educational adequacy of facilities.

E. Appraisal of the physical and structural adequacy of facilities.

F. Development of a master plan.

G. Assessment of financial resources.

H. Formulation of specific recommendations.

The process of completing the survey includes these tasks:

A. Research to find facts and identify needs.

B. Analysis to categorize findings.

C. Synthesis to develop alternative solutions.

D. Recommendation of a plan of action.

Sec. 205

The Community Analysis

An integral part of educational planning is an analysis of the community, including documentation of its history, an assessment of its present status, and a projection of its future character. Additionally, an effort should be made to determine what citizens expect from the school and what the community's educational needs are.

The following aspects of a community's development should be studied carefully:

A. Population characteristics and density patterns.
B. Population changes due to in and out migration patterns and to fluctuations in the birth rate.
C. Changes in socio-economic patterns resulting in population shifts within the community.
D. Possible shifts in housing patterns due to attitudes about racial integration.
E. Major highway and street networks and their probable development.
F. Condition and value of housing in residential areas and of commercial buildings in industrial areas.
G. Changes in land usage (residential, commercial, and industrial).
H. Changes in school district boundaries.
I. Availability of community services.
J. Vocational opportunities in the community.
K. Parental expectations of the school.
L. Citizen attitudes and aspirations in general.

Much of the needed data for this analysis can be obtained from school records and from other public agencies and institutions. Information concerning attitudes can be collected by a survey implemented by community groups.

Sec. 206

School Enrollment Study

The following statistics are essential components of the survey:

A. Population trends of the total school community.
B. Birth rates and the number of births.
C. Public school enrollment figures.
D. Non-public school enrollment figures.
E. Holding power of public schools (drop-out ratios).
F. Migration patterns.

Long-range projections of enrollments are a risky effort at best, but are an essential element to be considered. Some of the factors which affect long-range projections are:

A. Changing economic conditions.
B. Non-resident and non-public school students.
C. Boundary changes.
D. Pupil dropout/retention/acceleration.
E. Land-use changes.
F. Type of housing.

Sec. 207

The Educational Plan

The educational plan is that section of the educational facilities survey which describes in general the community's educational philosophy and goals.

The Office of the State Superintendent of Public Instruction is encouraging all school districts to develop statements of goals for education at the local level and for those statements to be consistent with the "Goals for Washington Common Schools" established by the State Board of Education. These goals are included as an exhibit to this chapter.

Sec. 208

Evaluation of Existing Facilities

An educational facilities survey must include an examination of existing facilities and should concentrate on answering these general questions:

Is the facility adequate?

and

Does the facility effectively accommodate the users as well as the program?

Specifically, the examiners should examine the following conditions:

A. Does it support the program?
B. Is its space optimally used?
C. Is its location convenient for the users?
D. Is it the right size?
E. Is the facility structurally sound?
F. Is it healthful and safe?
G. Is it efficient and economical to operate?
H. Does it conform to present codes, laws, and regulations?
I. Can it be modified?
J. What is its expected life for utilization?
K. Is it attractive and comfortable?

Sec. 209

The Master Plan

Once the developers of the educational facilities survey have explored the community's past, its present, and its projected future, have developed an educational philosophy and program, and have analyzed existing facilities, they can begin to plan the future of the school administrative unit, particularly its facilities.

Master planning is a way of identifying the best route to the future through a workable plan for handling priority rated, predictable situations, and anticipated changes.

The master plan is a document which defines ultimate goals for the school district and accounts for the facilities required to help achieve these goals.

Sec. 210

Assessment of Financial Resources

If the master plan reveals a need for facility improvements or new construction, cost estimates must be prepared.

For most school districts, the amount of money which can be devoted to construction or modification of educational facilities is determined by legal considerations, by the willingness of citizens to provide funds, by the availability of state monies, and by the eligibility of the local school district to receive state assistance.

All potential funding sources (and combinations thereof) should be considered. If construction funds come largely from property taxes, historical trends of assessed valuation should be studied and a projection for the future should be developed which will be updated annually. Outstanding school district debts should be analyzed to determine the possibility of dovetailing payments with future debt service requirements to obtain equal annual payments and possibly stable tax rates.

It would be advantageous for the school district to enlist the services of a financial consultant to assist them at this stage of planning. Refer to Chapter 5 for additional information on this subject.

Sec. 211

Recommendations

The recommendations section of the educational facilities survey should document the need for additional sites, abandonment of existing facilities, new construction, modernization, renovation or change in use.

Recommendations should address both short and long-range needs and situations. Care should be taken so that recommendations designed to address immediate needs also facilitate attainment of long-range objectives.

Reconciliation between educational facility needs and financial resources usually is made in the recommendations development stage of the educational facilities survey. A general plan for financing the improvements of each phase should be developed and a specific financing plan prepared for immediate projects.

Sec. 212

Interpretation of the Survey

The local school board will interpret it to the community and act upon the recommendations of the facilities educational survey. Since implementation of any major building program is usually contingent upon public understanding and support, it is essential that the community be fully informed of the identified needs, of plans to meet these needs, and how and why the plans were adopted.

Appendix

A. RESOURCES:

1. GUIDE FOR PLANNING EDUCATIONAL FACILITIES
   published by the:
   Council of Educational Facility Planners, International
   29 West Woodruff Avenue
   Columbus, Ohio 43210
2. PARTICIPATORY PLANNING
   by William S. DeJong, Asst. Executive Director, C.E.F.P.
3. A PROCESS MODEL FOR EDUCATIONAL FACILITIES PLANNING
   published by the:
   Superintendent of Public Instruction
   7510 Armstrong Street S.W. (Mail Stop FG-11)
   Tumwater, Washington 98504

B. S.P.I. ASSISTANCE AVAILABLE:
Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W. (Mail Stop FG-11), Tumwater, Washington 98504 for consultant services to assist your school district.

C. ACKNOWLEDGEMENTS:

1. Consultants:
   Manual Sub-Committee of the School Facilities
   Cost/Advisory Board
2. Technical Writer and Editor:
   Robert T. Olson, A.I.A.
   Olson-Rowe, Architects
   4224 Sixth Ave. S.E., Bldg. 5
   Lacey, Washington 98503

Exhibit

A. GOALS FOR WASHINGTON COMMON SCHOOLS
Established by the State Board of Education

- — The process of education should respect the uniqueness of each learner.
- — The process of education should provide increasing opportunities for individual self direction and decision making.
- — The process of education should provide learning experiences matched to each student's readiness to learn and the way he learns best.
- — The process of education should help each learner perform well and gain satisfaction from his performance.
- — The process of education should emphasize that cultural, ethnic, and racial differences contribute positively to our nation's future.
- — The process of education should extend learning opportunities beyond the building, school day, and school year.
- — The process of education should utilize the involvement and support of the entire community to maximize educational experiences.
- — The process of education should self-renew through continuous evaluation of progress toward the desired learning outcomes.
- — As a result of the process of education, each student should have the basic skills and knowledge necessary to seek information, to present ideas, to listen to and interact with others, and to use judgement and imagination in perceiving and resolving problems.
- — As a result of the process of education, each student should understand the elements of his physical and emotional well-being.
- — As a result of the process of education, each student should know the basic principles of the American Democratic Heritage.
- — As a result of the process of education, each student should appreciate the wonders of the natural world, man's achievements and failures, his dreams, and his capabilities.
- — As a result of the process of education, each student should clarify his basic values and develop a commitment to act upon these values within the framework of his rights and responsibilities as a participant in the democratic process.
- — As a result of the process of education, each student should participate in social, political, economic, and family activities with the confidence that his actions make a difference.
- — As a result of the process of education, each student should be prepared for his next career step.
- — As a result of the process of education, each student should use leisure time in positive and satisfying ways.
- — As a result of the process of education, each student should be committed to life-long learning and personal growth.

3

SITE selection and acquisition

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 3

SITE

SELECTION AND ACQUISITION

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

FEBRUARY, 1981

Table of Contents

Sec. 301 The Site

Sec. 302 Site Selection Criteria

Sec. 303 Site Approval — State Board of Health

Sec. 304 Site Selection Process

Sec. 305 Site Acquisition

Sec. 306 Timing of Acquisition of Property

Sec. 307 Funding Acquisition of Property

Sec. 308 Survey of Essential Site Data

Appendix

Sec. 301

The Site

Intelligent and imaginative school site selection and development are significant aspects of educational facility planning. The school site affects the educational program, the budget, transportation needs, enrollment, landscaping and numerous other factors.

Sec. 302

Site Selection Criteria

Each parcel of land identified as a potential school site should be thoroughly examined to determine its suitability in terms of educational plan, accessibility, cost, size, and numerous other criteria. It is essential that each site and surrounding property be evaluated upon both its present and possible future characteristics. In evaluating the property, attempt to answer the following questions:

A. Is the site the right size and shape? (Note that the State Board of Education has established, by regulation, the minimum size requirements for school facilities — refer to WAC 180-30-055).

B. Will the site support the educational program?

C. Is the site located conveniently for the majority of pupils?

D. Is the site near other community services such as library, parks and museums?

E. What is the relation of the site to existing educational facilities?

F. How is surrounding land zoned — will its development enhance the school site?

G. Can the land be shared with other community facilities and organizations, such as parks?

H. Will the site provide desirable open space for the community where it is needed?

I. Is the site expandable in the future or will it support expansion of facilities in its present configuration?

J. Is the topography conducive to desired site development?

K. Is the general environment aesthetically pleasing?

L. Does the land drain properly and are other soil conditions good?

M. Have tests been made to confirm underground conditions, particularly as to suitability for building foundations?

N. Does the site have desired trees and other natural vegetation?

O. Is the site easily accessible for service vehicles?

P. Are the road and traffic patterns surrounding the site suitable?

Q. Is the site safe?

R. Is the air quality healthful?

S. Is the site free of industrial and traffic noise?

T. Is the site served by public agencies — police, fire department, etc.?

U. Are adequate water and sewer services available at the site? If not, what are the costs for extending such services to the site?

V. Is the site available?

W. Is the cost affordable?

X. Are there any easements of any nature affecting the use of the site?

It may not be possible to locate a site that will totally accommodate all needs. Compromise may be unavoidable. Nevertheless, the selection committee should discuss priorities and agree on what qualities are indispensable.

Sec. 303

Site Approval — State Board of Health

Before a new school facility is constructed, an addition is made to an existing facility, or an existing school facility is remodeled, the school district shall obtain written approval from the health officer having jurisdiction that the proposed development site presents no health problems (Chapter 248-64-240 WAC). Your school district may request the health officer to make a survey and submit a written health appraisal of any proposed school site.

Present health regulations stipulate that noise from any source at a proposed new school construction site shall not exceed 60 dB(A) for more than 5 percent of the time (L5) during the hours the school is in session. Sites exceeding these sound levels are not considered acceptable, unless an appropriate plan for sound control is included in the new construction proposal.

Sec. 304

Site Selection Process

Who participates?
The selection of a school site and formulation of general plans for its development require a well-coordinated team effort by informed persons. School administration officials, qualified architects and/or engineers, and the educational consultant are ordinarily the primary advisors to the local school board. They may require the assistance of landscape architects, urban and regional planners, legal and real estate consultants, recreational experts, and soils engineers.

What is the procedure?
The site selection team is assembled and directed by the appropriate school official. Site selection criteria are reviewed and assimilated. Potential sites are identified and examined. The most promising two or three sites may require specialized soils testing or other inspections. After evaluation of all sites the selection team recommends a site(s) for purchase to the school board.

Sec. 305

Site Acquisition

The chosen site may be acquired by one or more of the following legal methods:

A. Purchase from the owner.

B. Acceptance as a gift from the owner.

C. Condemnation of private property with purchase at fair market value. A warning: condemnation proceedings may create unfavorable public reactions which could adversely affect subsequent bond issue elections, etc.

D. Receipt of surplus government property.

E. Lease of State-owned property.

State laws affecting the securing of proposals for sale, appraisals, counter offers and options should be investigated thoroughly.

Sec. 306

Timing of Acquisition of Property

Acquisition several years prior to development: Early site acquisition during a period of an expanding and inflationary economy is undoubtedly a wise and prudent activity for all school districts to consider. Effective selection of sites prior to identification of specific building needs requires considerable confidence in the advance plan discussed in Chapter 2 and also is a function of availability of satisfactory land and funds for acquisition. Early identification of school sites can reduce the design and construction time involved in the implementation of a school building project, thus tending to reduce costs.

Acquisition at time of commencing development: In districts where enrollment conditions and projections do not require such an anticipatory approach as early acquisition, selection and purchase of sites can be accomplished on the basis of known needs. A more astute site selection can normally be made under these conditions because educational specifications will have been developed and the design team for the project may have been selected and be available for participation in evaluation of prospective sites.

In any case, it is advisable that the site be acquired prior to submission of a Notice of Intent (Form B-1) to file an application for state assistance for the school building project — refer to Chapter 4.

Sec. 307

Funding Acquisition of Site

With the exception of land secured on lease from the State of Washington, fee simple title to the real property of the site shall be vested in the local school district, free and clear of all encumbrances. If circumstances regarding the purchase should require extended payments to the original owner, a waiver of this requirement may be considered by the State Board of Education on a case-by-case basis. Receipt of the title, or waiver thereof, must be accomplished prior to approval of a project as eligible for state assistance.

Sources of funding for site acquisition available to school districts include:

A. Passage of a building fund excess levy.

B. Passage of a bond issue for site acquisition.

C. Transfer of funds from the general fund to the building fund.

D. Outside sources (developer dedication or fee in lieu of dedication, etc.).

E. Sale of school district-owned surplus property.

Sec. 308

Survey of Essential Site Data

The logical starting point for the school facilities development design procedures is the preparation of a survey of essential site characteristics. This inventory is analyzed and serves as a basis for the site design. The survey should provide at least the following information:

A. Title of survey, property location, certification and date.

B. Scale and compass orientation.

C. Tract boundary lines, courses, and distances, including all easements.

D. Names of abutting property owners.

E. Bench mark with assumed elevation.

F. Names and locations of all existing road right-of-ways on or near the tract.

G. Location of roads, drives, curbs, gutters, steps, walks, paved areas and the like, indicating types of material or surfacing.

H. Road elevation for all improved roads on or adjacent to property; improved gutter elevations on property line side at intervals of 50 feet.

I. Location, type, size, and flow of all existing storm and sanitary sewers on or contiguous to the tract, including top and invert elevations of all manholes, and inlet and invert elevations of other drainage structures.

J. Location, type, and size of all water and gas mains, meter boxes, hydrants and other appurtenances.

K. Location of all utility poles, telephone lines, and power lines, with indication of nearest leads either on-site or off-site; pertinent information and ownership of all utilities.

L. Location of all existing structures on the site, including buildings, foundations, bridges, wells, walls and fences, and rock outcroppings.

M. Location of all swamps, springs, streams, drainage ditches, lakes, and other bodies of water; line of maximum flood plane if applicable.

N. Outline of wooded areas; location of trees, identification of trees by type, and identification of trees with trunks over eight inches in diameter at waist height. Location and identification of any other significant flora and fauna.

O. Elevations throughout the site sufficient to develop a complete and thorough contour map.

P. (Optional) Construction of permanent property corners such as concrete monuments.

This survey must be performed by a competent land surveyor registered in the State of Washington. Incomplete or inaccurate information gathered in this survey could lead to disastrous consequences later. Do not underestimate the importance and value of this survey.

Appendix

A. RESOURCES:

1. GUIDE FOR PLANNING EDUCATIONAL FACILITIES
   published by the:
   Council of Educational Facility Planners, International
   29 West Woodruff Avenue
   Columbus, Ohio 43210

B. REFERENCES:

WAC 180-30-055 requires, in part, that minimum site sizes shall be:

1. Elementary Schools:
   Five acres plus an additional one acre for each one hundred pupils of projected maximum enrollment, thus a project enrollment of 540 students would require an eleven acre site.
2. Middle schools, junior high schools, senior high schools and four-year high schools:
   Ten acres plus an additional one acre for each one hundred pupils of projected maximum enrollment, thus a projected enrollment of 1380 students would require a twenty-four acre site.

Refer to the additional information section of this manual for the complete text of WAC 180-30-055.

C. S.P.I. ASSISTANCE AVAILABLE:

Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W. (Mail Stop FG-11), Tumwater, Washington 98504 for consultant services available to assist your school district.

D. ACKNOWLEDGEMENTS:

1. Consultants:
   Manual Sub-Committee of the School Facilities Cost/Advisory Board
2. Technical Writer and Editor:
   Robert T. Olson, A.I.A.
   Olson-Rowe, Architects
   4224 Sixth Ave. S.E., Bldg. 5
   Lacey, Washington 98503

4

STATE ASSISTANCE

request and acknowledgement

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 4

STATE ASSISTANCE

REQUEST AND ACKNOWLEDGEMENT

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

JANUARY, 1981

Table of Contents

Sec. 401 General Information

Sec. 402 Basic Policy of the State Board of Education

Sec. 403 Application for State Assistance — Notice of Intent (Form B-1)

Sec. 404 Basic State Support Level

Sec. 405 Additional State Assistance

Sec. 406 Study of School Housing Situation

Sec. 407 Use of Consultants

Sec. 408 Participative Financing of Secondary School Facilities by Non-High School Districts

Sec. 409 Washington School Facilities Cost Stabilization Program

Sec. 410 Early Bidding Procedures

Sec. 411 Acknowledgement of Notice of Intent (Form B-2)

Sec. 401

General Information

State funds are available to school districts for assistance in providing school building facilities. Such state assistance is available for:

A. Replacement of substandard facilities.

B. Replacement of facilities that have been destroyed by fire, flood, earthquake or other calamity.

C. Relief of serious overcrowding.

D. Provision of certain facilities necessary for the education, health and well-being of students.

E. Improvement of school district organization.

F. Improvement of racial balance.

G. Modernization of school plant facilities.

H. Providing relocatable buildings.

I. Pilot or exemplary projects.

J. Implementation of an energy conservation program.

K. Design consultant fees.

L. Assistance in preliminary planning.

Eligibility for state assistance and allotments of funds to school districts for providing school building facilities shall be determined by the State Board of Education on the basis of:

A. Need for school facilities (WAC 180-30-030).

B. School district effort to provide capital funds (WAC 180-30-035).

C. Evidence that new construction will not create or aggravate racial imbalance (WAC 180-30-040).

Other conditions which furnish evidence of creating an emergency or need may enable a school district to become eligible for additional state assistance consideration: *Provided*, that it is found by the State Board of Education that an emergency or need exists and that additional state assistance is necessary to meet that emergency or need.

Sec. 402

Basic Policy of the State Board of Education

The State Board of Education recognizes:

A. The statutory responsibilities and authority of the board of directors of a school district to determine the type of school building it desires to construct for the children of its district, and

B. The statutory responsibilities and authority of the State Board of Education to prescribe rules and regulations governing the administration, control, terms, conditions and disbursement of allotments to school districts to assist them in providing school plant facilities.

In prescribing these rules and regulations, it shall be the policy of the State Board of Education to equate insofar as possible the efforts by school districts to provide capital funds, to equalize insofar as possible the educational opportunities for the children of the state and to establish a level of state support consistent with funds available.

Sec. 403

Application for State Assistance — Notice of Intent (Form B-1)

In order to qualify for eligibility and consideration of state assistance in a school building program, the school district shall submit to the State Board of Education a notice of intent to file an application for *each* proposed school building project. This notice of intent is designated as Form B-1 and must be filed with the State Board of Education prior to any submission of funding measures for voter approval.

A Note of Caution: Submittal of Form B-1 releases information to public scrutiny which might adversely affect property purchase negotiations if they have not been previously completed. It is usually advisable to have the site completely negotiated for, or purchased, prior to submittal of Form B-1.

There are two basic types of school building projects which may receive state assistance in funding, either individually or in combination. They are:

A. New construction, including additions.

B. Modernization.

A third type of school building project is "Alteration" and is not eligible for state assistance in funding. Modernization projects are distinguished from alteration projects in that modernization work must be code-related (i.e. work that is necessary to bring existing structures into compliance with laws, codes and ordinances). State participation in funding modernization projects is limited to:

A. Projects which are sufficiently broad in scope to insure that the facility will be structurally and educationally adequate for contemporary programs and,

B. The availability of state funds.

When several types of school building projects are combined, such as new construction and/or modernization with alterations, it is important to note that the costs for each type of project be clearly and separately defined and itemized in the construction documents. This is further discussed in later chapters of this manual.

Sec. 404

Basic State Support Level

A. Related Factors:

The amount of state assistance to a local school district in providing funds for school plant facilities is determined on the basis of these factors:

1. The number of unhoused students.
2. Space allocations.
3. Square foot cost allowance.
4. The amount of insurance, federal or other non-tax source local funds applied to the project.
5. Certain specified costs which must be financed entirely by the local school district.

B. State Matching Percentage:

The percentage of state assistance to a school district is determined in accordance with the state matching formula set forth in RCW 28A.47.803 but shall be not less than twenty percent of the matchable cost of the project.

C. Square Foot Cost Level of State Support:

The State Board of Education has adopted the "Boeckh Building Cost Index" as the basis for determining the square foot cost level of state support. This index, published by Boeckh Publications — a division of American Appraisal Associates, Inc., has become recognized throughout the United States and Canada as a reliable economic barometer for building cost trends.

D. Costs To Be Financed Entirely With School District Local Funds:

The costs of the following areas, facilities and items shall be paid from school district local funds in excess of local funds applied toward construction costs in accordance with the matching formula specified by law:

1. Area — the cost of area in excess of the space allocations set forth in WAC 180-30-110.
2. Site — acquisition cost of site (unless an emergency exists which might justify a waiver of this requirement by the State Board of Education).
3. Site development:
   a. Sodding, seeding and/or planting of athletic fields.
   b. Shrubs, trees, sprinkler systems and landscaping.
4. Alterations, repair and demolition (except alterations necessary to connect new construction to an existing building).
5. Facilities:
   a. Administration buildings.
   b. Auditoria.
   c. Bus garages.
   d. Stadia, grandstands, bleachers, etc.
6. Fireplaces.
7. Other Costs:
   a. Costs incidental to advertising for bids, site surveys and costs other than those connected directly with the construction of the building.
   b. Project sign.
   c. Sales and/or use taxes levied by local governmental agencies other than those sales and/or use taxes levied generally throughout the State of Washington.
   d. All costs in excess of state support level factors established by the State Board of Education for state participation in financing.

Sec. 405

Additional State Assistance

State assistance in addition to the amount determined allocable under basic state support level provisions may be allowed for:

A. Handicapped children and vocational-technical institute students (WAC 180-30-205).

B. Loss of building by fire (WAC 180-30-210).

C. Condemnation of a building (WAC 180-30-215).

D. Improved school district organization (WAC 180-30-220).

E. Improved racial balance (WAC 180-30-225).

F. Other conditions creating an emergency (WAC 180-30-230).

Sec. 406

Study of School Housing Situation

At the time the notice of intent (Form B-1) is filed for an initial school building project, the school district shall arrange for a cooperative study of its school housing situation by the school district and the State Board of Education under the direction of the Superintendent of Public Instruction. In accordance with statutory provisions, this cooperative study shall provide information including, but not limited to, the following:

A. Nature and extent of the school plant facilities required and the urgency of need for such facilities.

B. Ability of the school district to provide capital funds by local effort and estimated amount of proposed funding measure.

C. Need for improvement of school administrative units and school attendance areas among or within the district.

D. Enrollment for trends and racial balance data.

E. Site.

F. Such other data as the State Board of Education may require to establish preliminary determination of school district housing needs.

G. The aforementioned study must be completed prior to school district submittal of any capital funding measure to its voters if it is the intent of the district to seek consideration of state assistance for its proposed school construction program by the State Board of Education.

Sec. 407

Use of Consultants

S.P.I. Consultant:
The Superintendent of Public Instruction shall furnish to the school district the services of employed personnel to assist them in preparing the study of its school housing situation and other matters discussed in this chapter.

Design Team:
It is advisable for the school district to complete the formation of their design team for the proposed school facility project at the time that they are prepared to submit their notice of intent (Form B-1) if they have not previously done so. See Chapter 6 for further information on the design team.

Sec. 408

Participative Financing of Secondary School Facilities by Non-High School Districts

If your school district provides secondary school services for non-high school districts, consult with your SPI consultant for assistance in negotiating with the county committee on participation by the non-high school districts in providing capital funds for your proposed facility. Non-high school districts include those with K thru 6 or K thru 8 programs.

Sec. 409

Washington School Facilities Cost Stabilization Program

The procedural guidelines of the Washington School Facilities Cost Stabilization Program require utilization of "systems building" procedures on those projects (except modernization) receiving state assistance in addition to the amount determined allocable under basic state support level provisions in WAC 180-30-105 when, in the judgement of the Superintendent of Public Instruction, the projects could benefit from such procedures.

The term "systems building" is defined as the application of a systematic approach to the programming, design and construction of a facility with special emphasis on simplicity, repetitiveness, adaptability to future requirements and interrelatedness of building subsystems. For the purpose of this manual, "systems building" and "integrated design" are synonomous. Chapter 8 contains additional information on integrated design procedures.

Sec. 410

Early Bidding Procedures

Early bidding (prior to completion of final design and construction documents) of school facilities components or subsystems such as site work, off-site utilities, foundations, structural systems, mechanical and electrical systems may prove to be cost effective and time saving. Examine the possibilities of early bidding procedures with your design team and your SPI consultant and indicate on the Form B-1 if early bidding is being considered. See Chapter 8 for further discussion of early bidding procedures.

Sec. 411

Acknowledgement of Notice of Intent (Form B-2)

Upon determination that the information furnished indicates the school district meets requirements for state assistance consideration, the State Board of Education will transmit to the school district an Acknowledgement of Notice of Intent (Form B-2). Such transmittal shall not constitute a commitment of state funds.

Appendix

A. REFERENCES:

Chapter 180-30 WAC
SCHOOL BUILDING CONSTRUCTION

B. S.P.I. ASSISTANCE AVAILABLE:

Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W. (Mail Stop FG-11), Tumwater, Washington 98504 for consultant services available to assist your school district.

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   Lacey, Washington 98503

SECURING FINANCING

bond issue / election procedures

5

SCHOOL FACILITIES DEVELOPMENT
PROCEDURES MANUAL

CHAPTER 5

SECURING FINANCING

BOND ISSUE/ELECTION PROCEDURES

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

OCTOBER, 1980

Table of Contents

Sec. 501 Financing Capital Improvements

Sec. 502 Use of Consultants

Sec. 503 Step One -
At Least 60 Days Prior to Election Day

Sec. 504 Step Two
At Least 50 Days Prior to Election Day

Sec. 505 Winning Bond Elections

Sec. 506 After A Successful Bond Election

Sec. 507 Investment of Funds

Appendix

Sec. 501

Financing Capital Improvements

Eligibility for State Assistance:
No part of state-appropriated funds shall be allotted to a local school district until such district has provided funds for school building construction in an amount equivalent to two and one-half percent (2½%) of the value of its taxable property or *such lesser amount* as may be required by the State Board of Education.[*] These funds may be composed of bonds authorized for school building construction purposes and currently collectible and/or authorized excess tax levies for the building fund. Refer to WAC 180-30-035.

Sec. 502

Use of Consultants

Consultants:

A. S.P.I. Consultant:
The Superintendent of Public Instruction will furnish to the school district the services of employed personnel to assist in conforming with state laws and regulations regarding financing school building construction.

B. Financial Consultant:
Financial consulting firms cooperate with the bond counsel and advise the school district regarding maturity schedule and call provisions for bonds, appropriate dates for sale of bonds, and obtaining ratings for the district. They also will prepare and distribute the prospectus for the sale and verify the bids for purchase.

C. Bond Counsel:
These are independent law firms which draft and review the necessary proceedings leading up to the issuance of state and local debt obligations (herein referred to as "bonds"). Bond counsel also assures the purchasers of those obligations, in the form of an "approving legal opinion", that such obligations are valid and legally binding and that the interest paid on such obligations is exempt from federal income taxes.

References:
A clear distinction should be made between bond counsel who provide legal services, and financial consultants, who provide marketing assistance and other financial advice. The Superintendent of Public Instruction has, on file, information on bond counsel and financial consultants who have been providing services to local school districts.

Suggestion:
It is highly desirable for school boards to consider selecting their financial consultant as soon as the board has resolved to proceed with development of a new facility.

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[*] The State Board of Education normally requires only sufficient local funds as are needed to cover the school district's share of the project costs.

Sec. 503

Step One - At Least 60 Days Prior to Election Day

Select bond counsel to prepare the election resolution. The election resolution is a legal document which forms the base for a bond issue. If it is drawn incorrectly, the election may have to be rerun. Since the bond counsel does not normally charge a district for preparation of the election resolution if the election fails (if the election passes, the bond counsel are paid from the bond proceeds) it would *not* be advisable for the school district to attempt to prepare its own election resolution. The following information is required for the preparation of the resolution:

A. Purpose for the Issue:
A statement defining the proposed school building project.

B. The Term of Issue (10, 15, 20 years):
The term of the issue should normally be 20 years since this will provide the lowest cost per $1,000 of assessed value.

C. The Amount of the Issue:
The amount of the issue should be calculated by combining the projected construction cost, design team costs, costs of state and local sales and use taxes, non-matchable costs, a contingency allowance of at least 5 to 10 percent of the construction cost, the projected expenses associated with selling the bond issue, and other costs which might be incurred by the project. The projected expenses associated with selling the bond issue will include the bond counsel's fees, fees for the financial consultant, prospectus and bond printing costs, advertising and delivery expenses.

It is advisable for the school district to organize a bond election campaign steering committee at this phase of securing financing. This committee should be prepared to take over the election campaign as soon as possible after the election resolution is passed by the school board.

Sec. 504

Step Two - At Least 50 Days Prior to Election Day

The school board shall pass the bond election resolution at a regular board meeting and deliver copies of the documents to the county auditor or county auditors if the school district is in more than one county. The county auditor must have the formally adopted election resolution in his hands at least 45 days before the election date.

Either before or after passage of the bond resolution, select a financial consulting firm to prepare the prospectus, etc. Selection may be by bid unless a specific firm is desired. Prior to selecting a financial consulting firm, compare proposals to be sure that each offers the same service and that the stipulated fee covers the same cost items. Normally, the cost of printing and mailing of the prospectus, bond rating fees and cost of printing the bonds is not included in the fee which a financial consulting firm charges. Final selection of a financial consultant can take place at the first school board meeting following the election or, since financial consulting firms normally do not charge a fee if the bond election is not successful, a firm can be selected prior to the election in order to utilize their services more fully on matters affecting the election.

Sec 505

Winning Bond Elections

Bond elections are often decided by a handful of voters. This fact makes the bond campaign strategies selected by the district extremely important. A slight error or miscalculation can be disastrous. The following list of do's and don'ts should be reviewed prior to planning your bond election campaign:

A. Do's:

(1) Do establish a year-round, ongoing public relations program for the community.

(2) Do operate two-way communications system every day of the year.

(3) Do be absolutely open and frank in presenting the financial and social problems of your school district.

(4) Do educate the community about your needs with facts, not generalities. Understanding will encourage support.

(5) Do keep the total school staff well informed; then encourage contacts between the staff and the public.

(6) Do make sure promotional materials are brief, written in understandable terms, and address small doubts as well as big questions.

(7) Do send thank-you letters to all persons who help in the bond campaign. You may want their help another time.

(8) Do make specific individual assignments for operating your public information program and give that individual responsibilities, authority and sufficient time to complete the job.

(9) Do keep the numbers of building issues on each ballot to a minimum. If you combine too many projects, an unpopular project can cause the defeat of all others. Occasionally however, the "something-for-everyone" approach might prove successful.

(10) Do find out who supports your efforts and get them to the polls.

(11) Do concentrate on getting the young voters (18 to 25) and parents of young children to the polls.

(12) Do establish a steering committee with subcommittees responsible for identifying voters, voter turnout, the advertising program, and promotional materials.

(13) Do telephone or contact all potential supporters on election day. Concentrate first on those voters who may neglect to vote.

(14) Do take special care in developing your first announcement. Research has shown that up to 75% of the electorate will make up their mind permanently the first time they hear of the issue.

(15) Do make every effort to head off or neutralize organized opposition — it is devastating.

B. Don'ts:

(1) Don't threaten with the loss of programs, accreditation, etc.

(2) Don't speak to the public in "educationalese", use plain English.

(3) Don't speak *down* to anyone.

(4) Don't take anyone's support for granted.

(5) Don't use smoke screens in an attempt to mask a problem or program failure.

(6) Don't mix school issues with political issues. Hold your own separate election. The exception to this recommendation may occur when a large turnout of voters will be required to validate the election.

(7) Don't waste time trying to get the habitual non-voters to the polls.

(8) Don't drag the campaign through a long time period.

(9) Don't use a "letters-to-the-editor" campaign.

(10) Don't present proposed building plans in detail. Details tend to initiate differences and eventually negative votes.

(11) Don't utilize general telephone, door-to-door, or mail campaigns. Be selective. Don't waste your resources on voters you can't change.

Sec. 506

After A Successful Bond Election

The following actions must be taken to insure that the school district receives the bond proceeds as soon as possible.

A. The school district must retain a financial consultant if it has not already done so.

B. The financial consultant shall provide the bond counsel the maturity schedule, call provisions, etc., to be used in the bond issue.

C. The bond counsel shall prepare the bond resolution and notice of sale.

D. The school board, at an official meeting, shall adopt the bond resolution and shall select a date and time for sale based upon the recommendations of the financial consultant. The school board shall also, at the same meeting, authorize the publication of the notice of sale.

E. The school board should also consider authorizing the financial consultant to obtain a rating from Moody's Investors Service, Inc., and/or Standard & Poor's Corporation, nationally recognized rating firms, for any bond issue of over $500,000 or for any size bond issue for a school district that presently has a bond rating.

F. The notice of sale is then published at least once each week for four consecutive weeks in the district's official newspaper as required by state law.

G. The financial consultant shall prepare the bond prospectus or official statement which will be mailed to all potential bidders. This document provides economic, financial and general information on the school district which will determine the interest rate that a potential bidder will apply to this issue. The bond counsel should review this document to assure that full and accurate disclosure is made of legal matters concerning the bond issuer.

H. A special meeting of the school board will be convened at the bond sale which will be held in the county treasurer's office. A quorum of the board is required at the meeting during which the school board and the county treasurer will receive the bids for the bonds. After the financial consultant has verified the accuracy of the mathematics and form of the bids, the school board will accept the bid offering the lowest interest cost.

I. Bond counsel supervises and conducts the closing of the bond purchase transaction and the delivery of the bonds to the purchaser, including preparation of all necessary closing documents, printing (including proof-reading) of the bonds, closing receipts, arbitrage certificate, signature identification and non-litigation certificates, and verifies the legality and sufficiency of the method of payment for the bonds.

J. In advance refundings it is necessary to verify the arbitrage calculations, the sufficiency of the escrow to pay off the refunding bonds and ascertain the future and present value of the savings achieved.

K. At the time of closing, bond counsel delivers his or her final approving legal opinion to the school board and the bond purchaser, stating that the bonds are valid and the interest on them is tax exempt.

Normally it takes approximately 90 days from the adoption of the bond resolution to the receipt of the money by the school district.

Sec 507

Investment of Funds

Funds raised for school building construction should be promptly and prudently invested to maximize funds ultimately available for use by the school district. A schedule must be prepared anticipating cash-flow requirements so that funds can be disbursed at the proper deadlines. The school district is reminded that all of their available funds must be disbursed toward the project before any state funds can be utilized.

Appendix

A. RESOURCES:

1. GUIDE FOR PLANNING EDUCATIONAL FACILITIES
   published by the:
   Council of Educational Facility Planners, International
   29 West Woodruff Avenue
   Columbus, Ohio 43210
2. Forrest W. Walls
   Law Offices of Preston Thorgrimson, Ellis & Holman
   2001 I.B.M. Building
   Seattle, Washington 98101
3. Tom Dowd, Vice President
   Seattle-Northwest Securities Corporation
   500 Union Street
   Seattle, Washington 98101

B. S.P.I. ASSISTANCE AVAILABLE:

Contact the Division of Financial Services, Facilities and Organization Section, Office of the Superintendent of Public Instruction, Old Capitol Building, Olympia, Washington 98504 for consultant services to assist your school district.

C. Acknowledgements

1. Consultants:
   Manual Sub-Committee of the
   School Facilities Cost/Advisory Board.
2. Technical writer and editor:
   Robert T. Olson, A.I.A.
   Olson-Rowe, Architects
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   Lacey, Washington 98503

SCHOOL FACILITIES

6

selection of DESIGN TEAM

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT
PROCEDURES MANUAL

CHAPTER 6

SELECTION OF
DESIGN TEAM

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

FEBRUARY, 1981

Table of Contents

Sec. 601 The Team Concept

Sec. 602 Planning Resources

Sec. 603 Selection of Prime Designer

Sec. 604 Methods of Selection

Sec. 605 The Recommended Procedure for Comparative Selection

Sec. 606 Fees

Sec. 607 State Participation in Fees

Sec. 608 Contracts

Sec. 609 Consultant Subcontracts

Sec. 610 Owner's Project Representative

Sec. 611 Verification of Design Team

Sec. 612 Design Professionals' Insurance

Appendix

Sec. 601

The Team Concept

Planning for a specific educational facility is a team process. Effective facility planning cannot be accomplished in isolation. Quality of planning is best measured in terms of responsiveness to the needs of the total community, not in terms of absolute, arbitrary standards. The local school board and its administrator are the primary planning agents. The extent to which decision-making is shared with community groups, students, staff, etc., and the extent to which many of the planning resources are allowed to become agents is determined by the primary planning agents.

Sec. 602

Planning Resources

The term "planning resources" is used herein to designate those individuals, groups, techniques and documents which contribute meaningful information and thereby facilitate planning by expanding the knowledge with which decisions are made. These resources include the following:

A. Instructional Staff:
A school's instructional staff, utilizing existing facilities on an almost daily basis, provide an excellent planning resource. Instructors can assist in the development of the educational specifications and their translation into a facility plan.

B. Students:
Students, insofar as their maturity permits, should have similar access to the planning process as the instructional staff.

C. Support Staff:
Those persons responsible for administrative services, operation and maintenance of the facility, food service, health, safety, etc. can provide insight into factors such as student flow, security, equipment selection, safety, etc.

D. Citizens:
Citizen participation has become recognized as a valuable contribution to educational facility planning, especially in the formulation of educational goals and objectives. Utilizing citizen's advisory groups in planning is a way of insuring that the school operates fully as a community resource.

E. Legal Counsel:
Legal advice is necessary in reviewing contracts that accompany a building program. This legal work includes reviewing contracts for design services and advising on possible lawsuits resulting from the building program. Your County Prosecutor can offer assistance in these matters.

F. Prime Designer:
The prime designer is the professional who will be contractually responsible to the school board throughout the project. He may be an architect or engineer as the specific requirements of the project may dictate and as state law may require. The prime designer translates the educational specifications into design concepts which are developed in the building plans and specifications. The prime designer may function in an advisory capacity during the study of the school housing situation, site selection, and educational planning processes.

G. Consultant Designers:
Consultants who are specialists in architecture, structural design of buildings, lighting, plumbing, heating, ventilation, air conditioning, landscape design, and the like assist the prime designer. It is mutually advantageous that the consultant designers participate in the early planning process so that they can contribute their expertise and become familiar with the problems, issues and goals relative to the project.

H. Technical Consultants:
Individuals who comprehend the complexities of our advanced technology are often indispensable. Their assistance can be sought on a variety of matters such as acoustics, food service equipment, soils engineering and energy conservation measures.

I. S.P.I. Consultant:
The Superintendent of Public Instruction will furnish to the school district the services of employed personnel to assist them in selecting and efficiently utilizing their planning resources and in preparation of contracts for professional design services.

J. Project Representative:
The owner (school board) must designate a capable in-house project representative who can communicate effectively with other (design) team members and should have experience in design and construction activities and the coordination thereof. He must be given authority to render decisions promptly for the owner.

K. Construction Manager:
A third party hired by the owner, usually on a fee basis, to manage the project. The construction manager typically coordinates the work of both design professionals and contractors. The construction manager may deal with only the construction portion or he may be hired by the district to manage the total project from its inception. He should act solely as an agent of the owner. Proper use of construction management techniques may opportunities to reduce construction time and cost on suitable projects.

L. Value Engineering:
A cost control technique which is based upon the use of a systematic, creative analysis of the functions of a project or facility with the objective of identifying unnecessarily high costs. This process is a valuable resource to the local school district and its design team. It is important for the school district to hire designers and consultants who are familiar with the concept of value engineering. Further discussion of Value Engineering will be found in Chapter 8 of this manual.

Sec. 603

Selection of Prime Designer

The selection of a qualified prime designer is of vital concern. Qualified prime designers are professional architectural and/or engineering firms that exhibit the following:

A. Good standing in their profession and community.

B. Creative and artistic ability.

C. Technical competence.

D. Business capacity.

E. Integrity.

F. Good judgment.

G. Ability to cooperate and communicate with others involved in the project.

H. Interest in the project.

I. Past experience in school facilities.

J. A valid license to practice their profession in the State of Washington.

It is extremely important for the prime designer and the school district to achieve a mutual under standing of the project and a smooth working relationship if they hope to complete the project successfully. Therefore, it should be determined whether the general operational methods of the design firm will be compatible with those of the owner. The school district should know precisely which member of the design firm will supervise the project. Will there be a continuity of person nel, and therefore of relationship and communication, throughout the project?

Sec. 604

Methods of Selection

The three standard processes for selecting the prime designer are design competition, direct appointment, and comparative selection.

A. Design Competition:
A method wherein designers are invited to respond to a design program formulated by the owner with illustrated solutions and proposals for evaluation by the owner. This process is time consuming, expensive, and is rarely used for selecting a prime designer for an educational facility. A fee is generally paid to each participant in a competition.

B. Direct Appointment:
Direct selection by the school board based upon previous experience. This is the simplest process for selection although it is infrequently used outside of private work. It depends on a prior knowledge of the designer's work or on strong, reliable recommendations. Direct appointment is, however, a desirable situation for both owner and designer since known qualities are involved for both parties.

C. Comparative Selection:
This is the typical method for employing a prime designer for educational facilities. Comparative selection involves screening a prime designer from a group of candidates who have submitted, to the owner, information and materials concerning their qualifications. Assistance in screening firms for design service may be sought from various sources. One such source is the School Facilities Section of the Division of Financial Services of the Office of the Superintendent of Public Instruction, Olympia. That office maintains a list of professionals who have been involved in school building projects. Other sources include the International Council of Educational Facilities Planners and local architectural and engineering professional societies. Any announcement of impending school building planning usually generates contacts by local firms who wish to be considered. The critical task is to screen the applicant firms to find the one that appears best suited to undertake the project. Do not neglect to contact other owners (school districts) for whom the firms under consideration have performed work of a similar nature. Information can be secured by such contacts to determine how cooperative and responsive the firms have been on other projects, whether their estimates were reasonably close to actual bid costs, and the general degree of satisfaction of the owner with the firm's performance.

Sec. 605

The Recommended Procedure for Comparative Selection

Many public agencies, as well as private owners, use the Brook's law procedure adopted by the federal government as their method for selecting design professionals.

Under this procedure, the school district directly invites and/or advertises for qualified design firms to submit information about themselves. The information solicited from the firms will vary according to the size and complexity of the project. The following information would usually be requested for a *major* project:

A. General information and history of the firm.

B. Names and qualifications of principals.

C. Key personnel who will be assigned to the project.

D. Total personnel.

E. Consultants with details of experience and qualifications.

F. Experience on similar projects.

G. Recent bidding results compared to budgetary restraints.

H. Final cost results (including change orders) compared to budgetary restraints on previously completed projects.

I. Current work load and ability to perform the required services within a specified (time) period.

J. Specific experience in the following activities, as applicable:

  1. Preparation of environmental assessments and impact statements.
  2. Participation with community involvement.
  3. Programming.
  4. Scheduling, critical path techniques.
  5. Early bidding procedures.
  6. Value engineering.
  7. Life-cycle costing.
  8. Energy-conserving design techniques.
  9. Cost control.
  10. Other specialized skills, tools, or experience.

K. Concept of professional services.

L. Past history on litigation or insurance claims.

M. Preferred method of establishing fees.

N. Awards for services performed.

O. Examples of work accomplished.

P. Team proposed for this project.

Q. Proposed organizational/management plan.

R. Experience of proposed group *as a team*.

S. Statement of design philosophy.

T. References, particularly from other school districts.

When requesting this information from interested firms, emphasize the importance of presenting the information in a manner easily understandable by informed lay readers as well as other professionals. Most of the information requested is routine to design professionals but is, for the most part, new to many members of the selection committee.

The school board should appoint a selection committee of at least seven members selected from its membership, staff, appropriate citizens or other professionals not under consideration for employment for the project.

The selection committee should then review the information submitted by the firms interested in the project. Non-responsive answers to all information requested should result in elimination of the respondent from further consideration. This review is intended to narrow consideration of firms to three to five participants in continued consideration.

The top three to five firms should then be personally interviewed by the entire selection committee and ranked on the basis of their competence, understanding of the project, and ability to meet the school district's schedule and budgetary requirements. Discussions are then held with the top-ranked firm to determine its ability to perform the required services within a specified (time) period and in accordance with established budgets.

Negotiation of a fee for services with the preferred firm then takes place. If no agreement is reached, negotiations are terminated and discussions are then held with the second-ranked firm.

Sec. 606

Fees

Once a prime design firm has been selected on the basis of its qualifications and its ability to perform the work required, fee negotiations begin.

Compensation for design services is established in several ways, including the following:

A. Lump Sum:
Commonly used when the scope of services required is known or can be realistically determined in discussions with the selected designer.

B. Direct Cost times a multiplier to compensate for overhead and profit:
Used by many clients for commercial facilities, particularly when the scope of services required may vary continuously.

C. Percentage of Construction Cost:
This method is often used by state and local governments. Under the percentage method, compensation is generally determined on a declining basis; i.e., the larger the construction cost, the lower the percentage. However, the relative complexity of the facility must also be considered in determining an appropriate percentage.

D. Cost Plus Fixed Fee:
The design firm is paid a fixed fee for its professional contributions to the project and other office and consultant expenses are paid for on a basis similar to that in (b) above. This type of arrangement is sometimes used when the client desires the substantial personal attention of a particular design professional, because of unusual project requirements and because of that individual's special expertise in dealing with such requirements.

E. Per Diem Rates:
Sometimes used for unusual consultant services.

At the negotiating session, the school district's preference as to method of compensation and the method the design firm considers appropriate should be discussed and a conclusion reached. A willingness to bargain and a flexibility to adjust during the negotiating process will lead to a successful conclusion. At the conclusion, both parties should feel that they have attained their essential objectives and unreservedly stand ready to carry out their contractual obligations.

On a typical project, compensation for basic design services may generally be presumed to have been earned by the design team in the amounts listed below at completion of each phase of design work:

A. Schematic Design - 15% of basic fee.

B. Design Development (Form B-3) - an additional 20% of basic fee.

C. Construction Documents (Form B-5) - an additional 40% of basic fee.

D. Bidding (Form B-7) - an additional 5% of basic fee.

E. Construction - the final 20% of basic fee.

Sec. 607

State Participation in Fees

In the allocation of state funds for a school building project, the fees for design services eligible for state matching purposes shall not exceed the percentage or percentages in relation to the construction cost or costs as set forth in WAC 180-30-120 and WAC 180-30-320 (for modernization projects). In the allocation of state funds for an approved modernization project, the fees for design services eligible for state matching purposes shall not exceed one and one-half times the fees under new construction projects.

The fees set forth in the above references are established for the purpose of allocation of state funds and are not intended to establish minimum or maximum fees for design services. The actual fee may be negotiated at the discretion of the school district for design services required by them.

Sec. 608

Contracts

The national organizations of the design professionals which will participate in the school facility project publish many useful contract forms which reflect years of experience in the construction industry and which can be used in drawing up contracts for professional design services.

The Washington State School Directors Association also has prepared suggested contract forms for design services.

The school district should have their legal counsel review all contract forms prior to signing. The general conditions and supplementary conditions of the project manual which will be developed during the construction documents phase of the work must be properly coordinated with these design contract forms.

Sec. 609

Consultant Subcontracts

The prime designer's consultant designers and technical consultants (civil, structural, architectural, mechanical, electrical) should undergo the same scrutiny applied to selection of the prime designer. Be sure to investigate these consultants' attitudes toward alternative approaches to design, construction, etc. These consultants may provide their services through subcontracts between themselves and the prime designer from the compensation he receives through his contract with the school district.

The local school district may reserve the right to reject any consultants proposed for the work by the prime designer or to independently contract directly with consultants for their services. If the local school district elects to independently employ such consultant designers or technical consultants, they should give their prime designer full authority and responsibility for coordination of the work of these consultants and reimburse him for the extra services thus required of him.

Sec. 610

Owner's Project Representative

Continual involvement by the school district as part of the design team provides for consistent communication and active participation in design solutions. Time can be saved during the design and construction phases of the project by the district's designation of a project representative who should be able to make knowledgeable decisions quickly on behalf of the owner.

Sec. 611

Verification of Design Team

A signed or certified copy of the contract between the school district and the prime designer along with other supporting documents required by the application for state assistance in school building construction (Form B-3a) shall be submitted to the State Board of Education (see Chapter 9).

Sec. 612

Design Professionals' Insurance

Liability insurance is available to design professionals to protect them from losses resulting from their own errors or omissions. Such insurance indirectly protects the local school district since they might not be able to recover their own losses incurred through the errors or omissions of uninsured (or underinsured) design team members.

Some design firms elect to "self insure" to avoid the relatively high cost of such insurance. Many firms regularly carry such insurance for all of their projects and include its cost in their quoted fees. Other firms obtain this insurance on a specific project basis and include its cost in their fee proposal when it is required by their client. Despite the manner in which design professionals' insurance is obtained, its cost will ultimately be reflected as a cost to the school district.

School districts are well advised to investigate the insurance status of all members of its design team and:

A. Evaluate the protection offered to the district.

B. Ascertain the cost of this protection.

C. Consider the risk exposure of the district from the type and scope of the project.

Consultation with the school district's insurance agent and legal counsel will assist the district in determining the necessity of such insurance for each project. If you require this insurance, be certain that *all* members of the design team obtain it.

Appendix:

A. RESOURCES:

1. GUIDE FOR PLANNING EDUCATIONAL FACILITIES
   published by the:
   Council of Educational Facility Planners, International
   29 West Woodruff Avenue
   Columbus, Ohio 43210
2. David M. Scott, F.A.I.A.
   Professor of Architecture
   Assistant Dean of Facilities, College of Engineering
   Washington State University
   Pullman, Washington

B. S.P.I. ASSISTANCE AVAILABLE:

Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W. (Mail Stop FG-11), Tumwater, Washington 98504 for consultant services available to assist your school district.

C. ACKNOWLEDGEMENTS:

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   School Facilities Cost/Advisory Board
2. Technical Writer and Editor:
   Robert T. Olson, A.I.A.
   Olson-Rowe, Architects
   4224 Sixth Ave. S.E., Bldg. 5
   Lacey, Washington 98503

EDUCATIONAL SPECIFICATIONS

7

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT
PROCEDURES MANUAL

CHAPTER 7

EDUCATIONAL SPECIFICATIONS

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

JANUARY, 1981

Table of Contents

Sec. 701 Description

Sec. 702 Statement of Purpose

Sec. 703 Characteristics of the Educational Specifications

Sec. 704 Development Team

Sec. 705 Use of Consultants

Sec. 706 Requirements for State Assisted Projects

Sec. 707 Components of Educational Specifications

Appendix

Sec. 701

Description

The educational specifications describe the educational activities which a proposed facility must support and the types of spaces which will best accommodate program requirements. They are a vehicle of communication between the educator and the prime designer: the educator identifies the educational objectives and suggests general facility needs; the prime designer bases his design on this information.

Sec. 702

Statement of Purpose

During the preparation of the educational facilities survey (Chapter 2), a statement of purpose and goals for education should have been completed. If this statement of purpose and goals for education has not been previously prepared, the school district should immediately do so. If the educational specifications are to appropriately respond to the needs of the district as expressed by its citizens, parents and students, these needs must be defined precisely and widely accepted by the community. Proceeding without this statement of purpose indicates to many voters that their school board is unwilling to consider the significant contributions that could be offered to the educational program through community participation in facility planning.

Sec. 703

Characteristics of the Educational Specifications

Educational specifications should describe the following:

A. The learning activities that will be housed in the proposed facility.

B. The number, grouping and nature of the people involved.

C. The spatial relationship between the facility and the site.

D. The interrelationships of instructional programs with each other and with non-instructional facilities.

E. The major items of furniture and equipment to be used.

F. Any special environmental provisions which would improve the learning environment and promote staff efficiency.

The educational specifications document should stimulate creative thinking and, because of its clarity and directness, provoke intelligent communication between the educator, consultant and design team.

Sec. 704

Development Team

The development of educational specifications is a team activity which is accomplished by school administrative personnel with or without the assistance of an outside consultant.

The team leader is usually the principal of the proposed facility, if identified, or the principal of a similar facility. The leader coordinates the work of the team, establishes time schedules, provides guidance, and reports to the chief administrator.

The working team should be small and selective, with diversified interests, knowledge, and skills represented. The teaching staff and others who will be immediately involved in the use of the proposed facility are most able to provide the type of information required in educational specifications.

Sec. 705

Use of Consultants

SPI Consultants:
The Superintendent of Public Instruction will furnish to the school district the services of employed personnel to assist in development of educational plans and specifications.

Educational Consultant:
These are temporary employees of the school district who bring with them a considerable experience which may be lacking in the school district and an ability to broaden the spectrum of choices that the school district may consider.

Prime Designer:
If the prime designer has been employed prior to the preparation of the educational specifications, his services as an observer and consultant during program development will be of considerable value. He, and other members of the design team, can serve as advisors on architectural and site development considerations.

Sec. 706

Requirements for State Assisted Projects

The complete educational specifications must be submitted to the State Board of Education with the application for State Assistance in School Building Construction. Refer to Chapter 9.

Components of Educational Specifications

The educational specifications should state what is good educationally, not what may be common practice. The statement should not be limited by economic constraints, provincialisms, or other restrictions. It should be concerned with attaining improved — hopefully optimal — educational experiences and conditions.

A suggested outline for educational specifications is as follows:

A. Project Rationale
  1. Description of the planned project.
  2. Necessity for the project.
  3. Its intended use.
  4. General purpose it is to serve.

B. The Community
  1. Description of the community's history and its citizens.
  2. Geographic area to be served by the project.
  3. Location of the site.

C. The Educational Plans
  1. Curriculum plan.
     A statement of the school's philosophy and a listing of the goals and objectives of the program.
  2. Instructional method.
     A general statement of methods used to attain the goals and objectives, clarifying such manners as individual and team teaching, open structures, etc.
  3. Support plan.
     Identification of the school's administrative and maintenance staff, teachers, paraprofessionals, food service personnel, counselors, custodial personnel, etc.

D. Description of Activity Areas
  (Repeat for each area of the educational program to be accommodated in the new building or facility).
  1. Goals and/or objectives for the area.
  2. Planned usage.
     Identify the experiences and activities planned for the users of the area.
  3. Number of users.
  4. Staff required.
  5. Groupings.
     Identify anticipated group sizes, large or small, individual work, team organization, etc.
  6. Simultaneous groupings.
     Which of the above groupings will take place at the same time and the nature of the activities.
  7. Relationship to other activities.
     Identify the spatial relationship of this activity area to other spaces inside and outside the building.
  8. Spatial requirements.
  9. Support facilities.
     Student project areas, conference rooms, preparation areas, teacher planning areas, storage areas, etc.
  10. Environmental variables:
     a. Acoustical.
     b. Visual.
     c. Thermal.
     d. Aesthetic.

11. Intended community use of facilities.
12. Potential for adult education.
13. Utilities.
    Identify utilities and communication services required.
14. Storage.
15. Display requirements.
16. Furniture and equipment.
17. Other essential information.

E. General Building Considerations
   1. Health and safety requirements.
   2. Economy.
      Identify any economic constraints.
   3. Flexibility.
      To what degree should flexibility be designed into the facility? Should provisions be made for expansion — if so, in what areas.
   4. Circulation.
      Anticipated traffic patterns either heavy or light.
   5. Community use.
      Time and nature of community use, if any.
   6. Communication systems.
   7. Accessibility.
      How will students arrive at school — bus, private vehicles, walking, bicycling, etc. Other parking and access provisions.
   8. Building security.

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SCHOOL FACILITIES

DESIGN

8

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 8

DESIGN

ISSUED BY

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OLYMPIA, WASHINGTON

MAY, 1981

Table of Contents

Sec. 801 Participants
Sec. 802 Schematic Design
Sec. 803 Design Development
Sec. 804 Site Development Planning and Design
Sec. 805 Environmental Checklist
Sec. 806 Economy in Design
Sec. 807 Value Engineering
Sec. 808 Systems Building/Integrated Design
Sec. 809 Life Cycle Costing
Sec. 810 Energy Conservation Reports
Sec. 811 Utilizing Early Bidding Procedures
Sec. 812 Barrier Free Design
Sec. 813 Design for Safe Schools
Sec. 814 Types of Contracts
Sec. 815 Codes and Regulations
Sec. 816 Environmental Sanitation Requirements
Appendix

Sec. 801

Participants

The design of educational facilities is a process which requires cooperation among the design team, the educational planner, and the school administrative unit. It requires the development of a relationship based on mutual confidence and respect.

The development team which produced the educational specifications acting through the project representative is the appropriate unit to represent the school district and participate with the design team of professionals employed for the project in the analysis of the design proposals developed at this stage of the project.

During the design activities, the school district should offer prompt and thorough consideration to all solutions and alternatives offered for evaluation by the design team. A sympathetic attitude of cooperation evidenced by **all** participants in the design process will result in timely solutions best suited to meet the objectives of the project.

It is advisable that the school district's designated project representative fully participate in **all** activities concerning the project from this stage until the completion and evaluation of the project.

Sec. 802

Schematic Design

The design process for a school facility consists primarily of a schematic design phase and a design development phase.

The school district should expect the schematic design phase studies to include one or more:

A. Master time schedule for all project activities.

B. Site plan showing diagrammatic land use concepts and physical relationships of the building components.

C. Small scale line diagrams of building plans showing functional relationships and circulatory patterns.

D. Written general description of the project indicating how it responds to the educational specifications and listing the basic construction materials and systems being contemplated.

E. Preliminary statements of probable construction costs.

During the schematic design phase, the architect (the prime design professional for the majority of school facility projects is an architect) will translate the educational specifications (Chapter 7) into graphic representation. The architect is initially concerned with conceptual organization, functional relationships and circulatory patterns in response to the educational program. The site is immediately introduced into the planning process and the physical concepts of land use begin to emerge.

Each architect employs a unique process in developing a schematic design. Early dialogue with civil, structural, mechanical and electrical engineers, together with other appropriate specialized consultants is necessary to determine concept feasibility and potential systems applications as related to the educational specification requirements, and potential advantages of early bidding for portions of the work. Applicable codes, regulations and laws must be reviewed, and their requirements adhered to in the schematic design.

The design team will synthesize all program, site, design and engineering factors into one or more schematic designs to be presented to the school district and educational planner for review, along with an outline of construction specifications. Each design should be analyzed and discussed with regards to functional (program) validity, conceptual organization, environmental/aesthetic qualities, and related estimates of cost.

At this point either one schematic design or a combination of several will be singled out for further development. In the case that none of the designs satisfy the planning requisites entirely, either the architect must try something new or priorities must be re-evaluated. For example, if the size and complexity of the program require a facility more expensive than the budget called for, then something must be adjusted-either quantity, quality, or cost. It is not uncommon to go through this action/reaction process several times before a workable solution is reached that is satisfactory to everyone involved. Changes, variations and different arrangements may be tried at this time with relative ease.

When the schematic design is agreeable to members of the planning team, it goes to the school board for review and approval. This approval, (together with authorization to proceed with the design development phase of the work), must be transmitted to the prime designer in writing. Written approvals and authorizations are for the protection of all parties involved and will prevent potential misunderstandings at later phases of the work.

Sec. 803

Design Development

The school district should expect the design development phase studies to include:

A. A review and updating of the master time schedule for the project.

B. Site plan showing general location of structures and site improvements.

C. Building plans, elevations, sections, schedules and notes to further fix and describe the project's architectural, structural, mechanical and electrical systems.

D. Outline specifications of the work.

E. Refined statement of probable construction cost.

F. Area analysis of the project. Note that the final size of the project established at this phase of design determines the scope of the project to be accepted by the State Board of Education and cannot be revised without resubmittal to the State Board of Education at a later date.

With the schematic design approved, the architect proceeds to develop it into its final state. Plans will be studied at larger scale and three-dimensional relationships will be developed. Elevations, sections, perspectives and models are prepared to indicate such visual aspects as aesthetics, form, functional expression, scale, image, and intrinsic atmosphere. Circulation systems, room configurations and layouts, use of materials, and design of interior and exterior wall systems are developed. Life cycle costing and integrated design techniques are utilized. Value engineering concepts are employed to assure cost effectiveness. At the same time, the engineering systems are being developed and there is a constant dialogue between architect and engineer.

The structural engineer devises an approved structural system and establishes the location and general sizes of all structural members. The calculations of the structural engineer respond to soil conditions, seismic requirements and loading factors.

The mechanical engineer responds to climatic factors (winter/summer temperatures, amount of sun, etc.) in relationship to the percentage and type of exterior glass called for in the design, energy conservation restraints, space utilization factors, etc. to determine heating and cooling loads. In addition the mechanical engineer prepares plumbing and fire protection system layouts.

The electrical engineer works with the architect to develop the illumination, communication, signal and distribution systems which will be utilized in the facility.

The civil engineer works with the architect to locate the building on the site, and consequently developes site grading, paving plans, roadways, connections to utilities and on-site sewage disposal and drainage.

The landscape architect is concerned mainly with land use considerations and the type and nature of planting based on the program, climate, and local aesthetics and tradition.

Other technical consultants, hired for their expertise on certain specific aspects of the program, are proceeding with their design responsibilities under the direction of the architect.

When the architectural design is sufficiently finalized, the interior design can proceed. Furniture, fixed equipment and movable equipment are selected or designed.

At this time the architect will prepare a more detailed cost estimate. With the project now developed in considerable detail, the final design development plan will be again submitted to the school district and the proper authorities for review and approval. As before, approval of the design development documents and authorization to proceed with construction documents must be transmitted to the prime designer in writing.

This is the phase of the design process when the application for state assistance in funding (Form B-3) can be completed and submitted (see Chapter 9).

The remainder of this chapter includes further discussion of design elements to be considered during both phases of design work.

Sec. 804

Site Development Planning and Design

Once the survey of essential site data (Chapter 5) has been completed, it is possible to begin developing a land-use plan which details solutions to land engineering concerns such as adjustments of grades and placement of parking areas, roads and walkways, the landscape design, and plan of outdoor learning and athletic areas. It is advantageous to prepare these plans concurrently with preparation of building plans even if early bidding procedures are utilized for site development work.

There is more to proper site development planning that positioning the building on the site and planting a few trees and shrubs. It is important that aesthetic and functional considerations and relationships be examined, that an able landscape architect be employed to assist the entire design team, and that funds be allocated for site development in the initial capital outlay budget. Site-related expenses can be justified by numerous arguments; an attractive well developed school site pleases users and observers; it facilitates and encourages use by students, staff and community; it enhances the appearance of the building; it provides opportunities for learning and play; it is safe; it is less subject to vandalism than a neglected and barren site; it can facilitate energy conservation, and so on.

Minimal site treatment is not uncommon, often resulting from economic restraints, low priorities, or lack of information or imagination. Appropriately selected and developed sites can contribute immeasurably to the success and efficiency of the school facility. Do not neglect this aspect of planning.

Sec. 805

Environmental Checklist

The Washington State Environmental Policy Act of 1971, Chapter 46.21C, R.C.W. requires all state and local governmental agencies to consider environmental values both for their own actions and when licensing private proposals. The Act also requires that an Environmental Impact Statement be prepared for all major actions significantly affecting the quality of the environment.

Subsection (2) of WAC-197-10-365 comprises an environmental checklist form which must be answered as completely as possible in order that the agencies involved may determine whether or not a proposed school facility is a major action which would require the preparation of an Environmental Impact Statement. This form does not supersede or void application forms required under any other federal or state statute or local ordinance, but rather is supplementary thereto.

The local school district should ascertain the appropriate lead agency which has jurisdiction over the proposed facility (action) and should have their design team complete the environmental checklist for that agency. The lead agency must consider the checklist information and ascertain whether or not the action will have significant effect upon the quality of the environment.

If a threshold determination by the lead agency declares the proposal to be non-significant, the school district may proceed with the preparation of design drawings. A copy of the Declaration of Non-Significance and a copy of the completed Environmental Checklist must be transmitted to the Environmental Review Section, Department of Ecology (Mail Stop: PV-11), Olympia, Washington 98504 for permanent recording of the determination.

If a Declaration of Non-Significance is not issued by the lead agency, a Draft Environmental Impact Statement (E.I.S.) must be prepared, reviewed by all appropriate authorities (generally, all those who must issue permits and/or review permits for any portion of the work), and published. Occassionally, public hearings must be conducted on the E.I.S. Guidelines for preparation and review of the E.I.S. are available from the Environmental Review Section, Department of Ecology (Mail Stop: PV-11), Olympia, Washington 98504.

Your school district compliance with the requirements of WAC 197-10 must be confirmed in writing with the Office of the Superintendent of Public Instruction. (See Chapter 9).

Sec. 806

Economy in Design

When making decisions relative to cost, the school district should understand the distinction between an "economical" building and a "cheap" building. Initial cost is not the only important factor in decision making; decisions should include consideration of the total cost for the life of the facility.

Appropriate techniques for achieving economy include:

A. Value engineering.

B. Systems building/integrated design.

C. Life cycle costing.

All of these techniques are interrelated in many ways. The following sections discuss these techniques in more detail.

Sec. 807

Value Engineering

Value engineering is a cost control technique which is based on the use of a systematic, creative analysis of the functions of a project or facility with the objective of identifying unnecessarily high costs.

If a school facility construction, addition or modernization project is considered in its entirety, four major groups of decision makers influence the cost of the project. They are:

A. The owner (school district).

B. The design team (architect, engineer, etc.).

C. The contractor.

D. The operations and maintenance staff.

Of these four groups, the design team has the greatest impact on the cost of the facility, in part because their decisions regarding structural and architectural design elements and the equipment and materials they select directly affect both capital and operations costs in the short term, and replacement or modification costs in the long term. Therefore, it appears that the local school district can most appropriately expect to achieve cost efficiency by concentrating on the design phase of a project, assuming that the construction costs are minimized by appropriate application of the design.

The basic goals of value engineering are:

A. To eliminate or modify any aspect of a design that increases costs without contributing directly to its functional aspects.

B. To evaluate the construction, maintenance, operation and replacement costs of building elements through a methodical approach to life cycle costing.

C. To develop alternative design concepts for the project, where appropriate, that reduce life cycle costs and still fulfill the requirements of the educational specifications and all other rules and regulations.

The typical value engineering process requires the efforts of a team consisting of five or six members participating in a forty hour workshop. The more complex and costly a school facility project is, the more teams will be required to analyze it for potential cost savings. Value engineering has proven to be most productive when utilized on projects having a construction cost of over one million dollars.

Results of previous value engineering studies have indicated a cost savings achievement that not only pays the costs of the value engineering teams and additional compensation to the school district's design team for their participation, but leaves a substantial resultant cost saving for the school district.

Complete information concerning value engineering techniques is contained in the Value Engineering Technical Manual issued by the Office of the Superintendent of Public Instruction. This manual is available for the use of all school districts and design professionals in the State of Washington.

Sec. 808

Systems Building/ Integrated Design

WAC 180-30-510 (1) (c) requires utilization of systems building techniques on all projects (except modernization) which receive state assistance in excess of the amount allocated under the basic state support level (Sec. 404) and which, in the judgement of the Superintendent of Public Instruction, would benefit from systems building techniques.

"Systems Building" is defined as the application of a systematic approach to the programming, design and construction of a facility with special emphasis on simplicity, repetitiveness, adaptability to future requirements and inter-relatedness of building subsystems (components). Some examples of building subsystems are:

A. Structural framing.

B. Interior space subdivision (flexible).

C. Ceilings, especially those integrating portions of other subsystems.

D. Heating, ventilating and/or air conditioning.

E. Lighting.

F. Hardware and locking devices.

For the purposes of this manual, the terms "Systems Building" and "Integrated Design" are synonymous.

Consideration of integrated design must begin at the planning phase of a new project. It may also be a continuation of previous studies on other projects to permit continuity of subsystems on a district-wide basis. The planner must keep in mind four major concepts:

A. Simplicity.

B. Repetitiveness.

C. Adaptability.

D. Useful life expectancy.

There are two basic types of integrated design programs currently available:

A. Systems Developed Programs -
Wherein new and more appropriate products for school facilities are developed and manufactured. Large markets must be created to provide a sufficient volume of demand to encourage manufacturers to implement such programs.

B. Off-The-Shelf Programs -
Wherein previously developed systems, components and products are utilized. While not dependent on large size projects or high volume of useage, this program does require ready availability, compatability, and beneficial results arising from the utilization and combination of these products in multiple assemblies.

To be effective, utilization of integrated design techniques encourages the selection of a standardized dimensional grid to be utilized in as much of the project as possible. Standardized building modules will simplify supply, manufacture, installation, and replacement of components and materials.

Early bidding procedures (Sec. 811) may significantly assist and enhance utilization of off-the-shelf components and may permit more time delivery of such components to the job site. Many components, such as structural frame, doors, windows, hardware, casework, carpeting, mechanical and electrical equipment can be selected, put into early bidding packages, bid and, in some cases, ordered prior to completion of all of the construction documents. This procedure will fix certain of the construction costs earlier, assisting in budgeting the project, but also may limit the design options available to the design team.

Integrated design (systems building) programs are valuable if investigation proves that they may offer significant cost or time savings and that they will withstand the challenge of life cycle cost procedures. Be certain to discuss the possibilities of integrated design programs with your design team.

Technical assistance in utilization of systems building techniques is available from S.P.I. and mandatory critiques will be conducted by the office of S.P.I.

Sec. 809

Life Cycle Costing

A life cycle cost analysis is an economic assessment of a facility, or component thereof, that considers all significant costs of ownership over a given period of time (life cycle) expressed in terms of equivalent dollars. Significant costs include initial cost, and the energy, operation, replacement and maintenance costs of the facility or component.

While life cycle costing procedures are more frequently utilized in energy consumption analysis studies (see Sec. 810), they are valuable techniques to be considered for use in improving the quality and credibility of many other planning and design decisions. Informal life cycle costing procedures are a normal (sometimes subconscious) element regularly utilized by experienced design professionals throughout the design process.

The design development phase of school facility planning offers the best opportunity to effectively utilize life cycle costing procedures. Decisions are finite, alternatives are easy to identify and reliable data is most likely to be available. When selecting areas to be evaluated by a life cycle cost analysis, the design team should:

A. Select situations where a large quantity of elements is involved.

B. Select situations where it is clear that an extra initial capital investment might provide long-term cost savings.

C. Select situations where alternatives appear to present relatively similar initial costs but might result in important continuing operating and maintenance cost differences.

Consideration of such factors as accessibility for the handicapped, noise control, safety, durability, aesthetics and environmental impact need not conflict with the intent of life cycle costing. If an alternative design is unacceptable for human or environmental reasons, it should be modified or rejected prior to consideration for life cycle costing.

Life cycle cost analysis procedures require additional time and expense on the part of the design professionals participating in the process. Compensation for life cycle costing services should be provided by a separate fee for supplemental services. Effective utilization of these procedures also requires direct participation by the school district and the district should be fully prepared to provide the time and personal effort necessary for successful cooperation with the design team.

Sec. 810

Energy Conservation Reports

In recognition of the need for a continuing energy management and conservation program, the State Board of Education has adopted policies, rules and regulations for an energy conservation program for proposed school facility projects.

Energy conservation standards are contained in the Washington State Energy Code and also in many local codes and ordinances.

Before a school district constructs or renovates a major facility, an energy conservation report must be prepared by a licensed architect or registered engineer. This report should utilize current life cycle cost analysis techniques, and demonstrate compliance with the state or local energy code, whichever is more stringent. A major facility is defined as a new building containing 25,000 square feet or more of floor area. Renovations include additions, alterations or modernizations proposed in a twelve month period which would exceed fifty percent (50%) of the value of the existing facility and which will affect at least one building energy consuming system. The statute regarding this report is RCW 39.35.

The Superintendent of Public Instruction has designated the Washington State Energy Office as the agency with the authority to review energy conservation reports of school projects receiving state construction funding. The Washington State Energy Office has prepared "Guidelines for the Preparation of Life Cycle Cost Analysis for Public Facilities" which are available from their office at 400 East Union, First Floor, Olympia, Washington 98504. These guidelines are to be followed together with "Supplementary Guidelines for School Projects Receiving Funds from the Superintendent of Public Instruction" available from your S.P.I. consultant.

The report **must** consider four different factors relating to energy consumption. The impact these factors have on energy use should be investigated and analyzed. The four factors are:

A. The configuration of a facility and its orientation on the site.

B. Window and door openings.

C. Quantity of insulation to be incorporated in the structure.

D. Occupancy and operating conditions.

The energy conservation reports should be prepared prior to the completion of the design development phase and submitted directly to the Washington State Energy Office for review. Each submittal should include a fully completed copy of the School Building Energy Characteristics Reporting Form, SE02-036. Evidence of compliance with the requirements of RCW 39.35 must be submitted to the State Board of Education with the Form B-3 documents.

Preparation of energy conservation reports require additional time and expense on the part of the design professionals participating in the process. Compensation for these services should be provided by a separate fee for supplemental services. Consideration may be granted by the State Board of Education for state assistance in costs incurred through preparation of life cycle cost analysis reports to meet the requirements of the energy conservation program.

The report must include energy consumption simulations which account for all energy use in a typical year. Each analysis must compare at least three alternatives which are significantly different from each other.

Sec. 811

Utilizing Early Bidding Procedures

Early bidding is a technique wherein certain building components, systems, or subsystems may be preselected for use in the projected facility. Early bidding may include pre-purchase of materials and/or equipment or contracting for portions of the work to be completed prior to, or during completion of final construction documents for the entire project. Examples of effective use of early bidding procedures include:

A. Contracting for site development work such as clearing, grubbing, excavations, controlled earth fills, and utilities serving the site in order to take advantage of favorable weather conditions which might not prevail during the normal time frame of design and construction procedures.

B. Purchasing certain items or equipment or materials which might require extensive time delays for their production or manufacture.

C. Combining purchase of equipment, materials, or systems for several projects in order to benefit from quantity buying.

Early bidding procedures should be examined carefully by **all** members of your design team and utilized when appropriate. Life cycle costing and value engineering techniques (if utilized) may also indicate such procedures would be appropriate for the project.

State assistance may be used for early bidding procedures if such have been approved by the State Board of Education. If your school district is considering use of early bidding procedures, indicate such consideration in the submittal of the Notice of Intent (Form B-1); see Chapter 4.

Sec. 812

Barrier Free Design

The Rehabilitation Act of 1973, Section 504, states "no otherwise qualified handicapped individual in the United States who (a) has a physical or mental disability which, for such individual, constitutes or results in a substantial handicap to employment, and (b) can reasonably be expected to benefit in terms of employability from vocational rehabilitation services provided pursuant to Title I and III of this Act, shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." In conformance with the rules and regulations of Section 504, new school facilities must comply with the following requirements:

A. All new facilities must be "barrier free".

B. Programs or activities in existing facilities must be made accessible to the handicapped and, if no other alternatives will achieve program accessibility, structural changes must be made in the facility.

The Washington Administrative Code (WAC 51-10) contains rules and regulations deemed to be requisite standards and specifications for "barrier free" design as required by the Washington State Building Code (RCW 19.27). In case of conflict with provisions contained in the Uniform Building Code, the provisions contained in WAC 51-10 rules and regulations shall govern.

State assistance has been granted to school districts to help meet the requirements of the Rehabilitation Act of 1973, Section 504. Local school districts should contact their S.P.I. consultant to confirm current State Board of Education policies regarding compliance with the regulations.

Sec. 813

Design for Safe Schools

During the last several years, violence and vandalism in schools have emerged as serious problems throughout the nation.

As a result of the studies of a "Safe Schools Task Force" appointed in 1977, the Office of the State Superintendent of Public Instruction has published a manual entitled "Creating Safer Schools" which is available to all school districts and design professionals in the state. Recommendations included in this manual are specifically directed toward those criminal activities that occur on school premises and can be reduced by design and security factors.

Local school districts are encouraged to examine this manual and to insist that their design team consider the recommendations made therein in their designs for the new school facility.

In addition to the "Creating Safer Schools" manual, the Office of the Superintendent of Public Instruction has a "Design Checklist for Assessing School Environments" published by the National School Resource Network Center for Human Services, 5530 Wisconsin Ave. N.W., Suite 1600, Washington, D.C. 20015. Copies of this checklist are available, upon request, from S.P.I. or the publisher.

Sec. 814

Types of Contracts

Several types of contracts are available for use in constructing school facilities, including:

A. Single Contracts:
"Single Contracts", because of their relative simplicity of administration, are the most convenient for the prime designer. They are generally considered to be the most satisfactory due to centralization of responsibility, better assurance of completion on schedule, and increased efficiency. In single contract work the selected contractor assigns the work of subcontracts, or subcontracts are awarded by previously filed subbids and assigned to the contractor.

B. Multiple Prime or Separate Contracts:
These contracts cover a wide range of practices, depending on regional customs and law, the scope and complexity of the project and the type of owner and his needs. These practices include:

1. Separate Stipulated Sum Contracts, each under a prime contract with the owner. Some public work is required to be constructed under separate mechanical, plumbing and electrical contracts, additional to the general contract. The Washington State Board of Education Building Assistance Rules no longer require this method, but it may be used at the discretion of the local school board.

2. Phased construction, also known as "Fast Track" and "Accelerated Scheduling" is awarded for sequential construction under separate contracts.

3. Contracting under construction management, either phased or simultaneous construction.

Phased construction or construction management procedures may be utilized for projects utilizing state assistance **only** upon approval of the State Board of Education.

The decision on the number of contracts and the general scope of each should be made prior to preparation of the construction documents. Refer to Chapter 12 for further discussion of types of contracts.

Sec. 815

Codes and Ordinances

The design of school facilities must, in every way, comply with the requirements of all applicable local building, health, zoning and safety codes and other ordinances including the State Building Code (Chapter 10).

In cases of conflicting requirements between local and state requirements, the more restrictive shall be complied with.

Sec. 816

Environmental Sanitation Requirements

The Washington State Department of Health Services, Health Services Division, Office of Environmental Health Programs issues "Rules and Regulations of the State Board of Health for Environmental Sanitation, primary and secondary schools" (Chapter 248-64 WAC). These rules and regulations are established as minimum environmental standards for educational facilities and do not necessarily reflect optimum standards for facility planning and operation.

As a supplement to the State Board of Health Rules and Regulations, the Office of the Superintendent of Public Instruction has developed other prescriptive standards providing a firm basis for certain elements of design to assist in compliance with the State Board of Health Rules and Regulations. Your S.P.I. Consultant can furnish you copies of these standards.

Refer to Chapter 11 regarding Health Agency approvals.

Appendix

A. RESOURCES:

1. GUIDE FOR PLANNING EDUCATIONAL FACILITIES
   published by the
   Council of Educational Facility Planners, International
   29 West Woodruff Avenue
   Columbus, Ohio 43210
2. CREATING SAFER SCHOOLS
   published by the
   Grants Management Section
   Office of the Superintendent of Public Instruction
   7510 Armstrong Street S.W. (Mail Stop FG-11),
   Tumwater, Washington 98504
3. GUIDELINES FOR THE PREPARATION OF LIFE CYCLE COST ANALYSIS FOR PUBLIC FACILITIES
   published by the
   Washington State Energy Office
   400 East Union, First Floor
   Olympia, Washington 98504
4. AN ILLUSTRATED HANDBOOK FOR BARRIER FREE DESIGN-WASHINGTON STATE RULES AND REGULATIONS
   By Robert Small A.I.A. and Barbara Allan
   available from
   The Easter Seal Society for Crippled Children and Adults of Washington
   521 Second Avenue West
   Seattle, Washington 98119
5. VALUE ENGINEERING TECHNICAL MANUAL
   By CH_2M Hill, Northwest
   published by the
   Washington School Facilities Cost Stabilization Program
   Office of the Superintendent of Public Instruction
   7510 Armstrong Street S.W. (Mail Stop FG-11),
   Tumwater, Washington 98504

B. S.P.I. ASSISTANCE AVAILABLE:

Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong Street S.W. (Mail Stop FG-11), Tumwater, Washington 98504 for consultant services available to assist your school district.

C. ACKNOWLEDGEMENTS:

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   Manual Sub-Committee of the School Facilities Cost/Advisory Board
2. Technical Writer and Editor:
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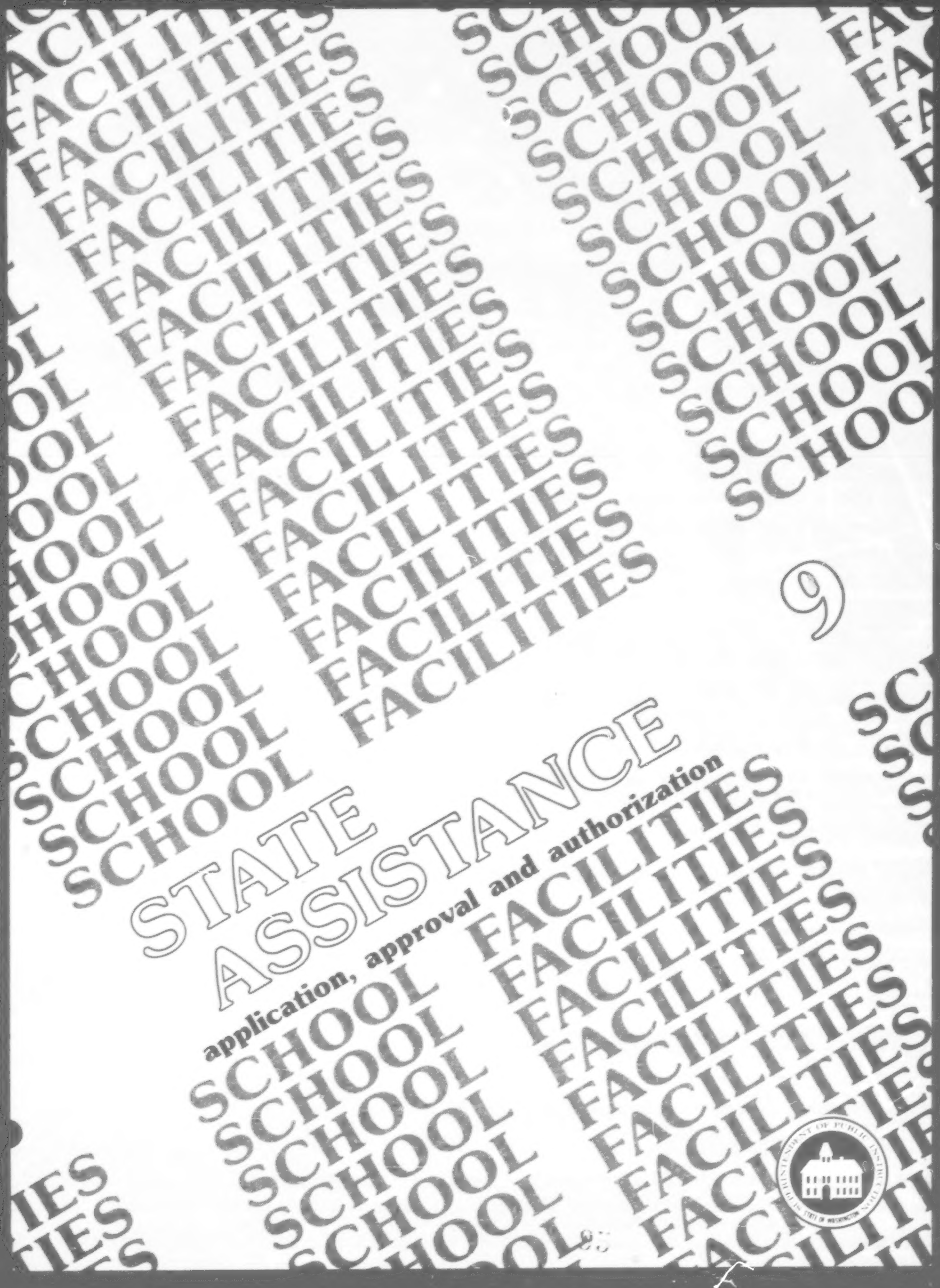
SCHOOL
FACILITIES

STATE ASSISTANCE

application, approval and authorization

9

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 9

STATE ASSISTANCE

APPLICATION, APPROVAL & AUTHORIZATION

ISSUED BY

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STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

APRIL, 1981

Table of Contents

Sec. 901 Applications for State Assistance - Form B-3

Sec. 902 Preliminary Fiscal Data and Documents

Sec. 903 Design Development Phase Drawings and Related Data

Sec. 904 Certification of Financial Status of School District

Sec. 905 Transmittal of Application

Sec. 906 Consideration of Application

Sec. 907 Approval of Application

Sec. 908 Form B-4, Authorization to Prepare Construction Documents

Sec. 909 Form B4a, Authorization to Prepare Construction Documents, Early Bidding

Sec. 910 Form B-4b, Provisional Allotment of State Funds, Early Bidding

Sec. 911 Time Limit for Advancement of Projects

Appendix

Sec. 901

Application for State Assistance - Form B-3

A school district may apply for state assistance in financing school building construction by completing and submitting to the State Board of Education the applications and certifications listed hereinafter (Form B-3). These applications shall be in accordance with the findings of the cooperative study described in Chapter 4 and shall further comply with the pertinent rules and regulations of the State Board of Education.

The application consists of Form B-3, hereinafter described in Sections 902, 903 and 904. Certain of the documents required by this form may not necessarily be required by the State Board of Education with the initial submission of the form, but **all** of the documents must be completed and transmitted to the State Board before Form B-4 can be issued. Your S.P.I. consultant can provide valuable assistance and advice to your district in the preparation of this application.

While many of the documents contained in the application will be prepared by other members of the design team and other agencies, it should be recognized that the ultimate responsibility for proper and timely submission of all documents included in the application rests with the local school district.

Sec. 902

Preliminary Fiscal Data and Documents

This form is the first document forming the application for state assistance in financing a school facility. It contains a general description of the project, the local funds available for construction and reserved for the project and an enrollment report of the school district.

The following supporting documents must be submitted:

A. Summary statement of the educational program and/or educational specifications; see Chapter 7.

B. Written statement of how the proposed design for the facility fulfills the requirements of the educational program or specifications.

C. Signed or certified copies of the contract(s) between the school district and the designer(s); see Chapter 6.

D. Site documents as follows:

1. Signed statement of site approval by the health office having jurisdiction.
2. Signed statement of site approval by the planning commission or other authority having jurisdiction.
3. Legal description of the site, tabulation of site area and certification of fee simple title by the prosecuting attorney or other legal counsel.
4. Signed statement of site approval by the State Department of Ecology when the site, or portion thereof, is located within the designated flood plain of a river or major stream.
5. Statement indicating compliance with Chapter 197-10 WAC and other applicable rules of the Council on Environmental Policy. See Chapter 8.
6. A request for site approval to the State Board of Education.

E. Copy of resolution adopted by the school district board of directors certifying full compliance with the provisions of WAC 180-30-040 relating to racial balance and supported by the following:

1. An ethnic count for each school in the district as of October 1 immediately preceding the date of the application, the extent of change in ethnic count projected for a five-year period for all schools affected by the project, and an estimated five-year enrollment projection by ethnic groups for the district.
2. A map indicating present attendance areas and ethnic distribution at all levels and any proposed or projected changes.
3. Transportation services proposed indicating any changes resulting from the project.
4. A statement delineating impact and relationship of proposed construction to any federal or state programs, i.e. freeways, urban renewal, model cities programs, etc.

5. Such additional data as the school district deems appropriate in support of the resolution.

F. If the project includes participation by non-high school districts, furnish additional information for each participating district.

G. If the project includes replacement of substandard facilities, furnish reports from a licensed structural engineer, the health office having jurisdiction and the fire marshal as applicable.

H. If the project includes modernization, furnish reports from a licensed structural engineer, the health office having jurisdiction and the fire marshal regarding condition of existing facilities and feasibility of modernization.

I. Documentation of compliance with requirements of energy conservation program (life cycle cost analysis) as set forth in WAC 180-30-406 (1). See Chapter 8.

Sec. 903

Design Development Phase Drawings and Related Data

This portion of Form B-3 contains cost estimates for the project, an area analysis of the proposed facility, a description of the project, outline specifications, and a description of expansion capabilities of the facility.

The following supporting documents must be submitted:

A. Design development phase drawings prepared in accordance with the S.P.I. "Instruction to Architects/Engineers".

B. Square foot area analysis worksheet using the S.P.I. tabulation form and computed in accordance with the S.P.I. "Instructions to Architects/Engineers".

Sec. 904

Certification of Financial Status of School District

This portion of Form B-3 is to be prepared and signed by the county treasurer and county auditor having jurisdiction. If more than one county is involved, or if more than one school district is participating in the project, a separate form shall be prepared and submitted by each county or school district.

The form tabulates the school district bonds outstanding, assessed valuation, excess tax levies, status of the bond redemption fund, and bonds authorized but not yet issued.

Sec. 905

Transmittal of Application

The school district shall submit the original of the Form B-3 together with the required supporting documents and data to the Office of the Superintendent of Public Instruction. Retain one copy for the school district files and send one copy each to the school district's prime designer and to the Superintendent of the appropriate educational service district.

Sec. 906

Consideration of Application

Applications for state assistance in financing school building construction must be processed and verified by the Facilities and Organization Section of the Office of the Superintendent of Public Instruction prior to referral to the State Board of Education.

The State Board of Education meets on a scheduled basis to conduct its business. Deadline dates for submittal of items for consideration by the State Board of Education are established by the Office of the Superintendent of Public Instruction for each meeting to allow time for processing and verification. These dates can be ascertained by contacting your S.P.I. consultant. Applications received after the deadline will be processed as quickly as possible but may not appear on the agenda until the meeting following that for which the deadline date was established.

Sec. 907

Approval of Application

Upon determination that the applicant school district is eligible for state assistance and that the proposed project meets statutory and state board requirements, the State Board of Education will issue Form B-4 and, if the project includes early bidding procedures, Forms B-4a and B-4b.

Included with the B-4 forms, the school district will receive a memo delineating the eligible square foot area for the project. This area will be the maximum area considered for state matching funds. Any expansion of this area must be resubmitted to the State Board of Education for reconsideration and approval if state participation is desired in financing the additional area.

Sec. 908

Form B-4, Authorization to Prepare Construction Documents

This form is issued by the State Board of Education and includes approval of the design development phase drawings, authorization to prepare the construction documents for the project, provides regulations for the preparation of the construction documents and a provisional reservation of state funds for participation in the matchable costs of design services incurred through completion of said construction documents.

Issuance of this form does **not** constitute a commitment of state funds for **construction** and **construction related design services.**

Sec. 909

Form B-4a, Authorization to Prepare Construction Documents, Early Bidding

This form is issued by the State Board of Education when **early bidding procedures** are to be utilized in construction of the project. This form includes:

A. Approval of the design development phase drawings.

B. Authorization to prepare construction documents for the project.

C. Regulations regarding preparation of construction documents.

D. Approval of early bid construction documents.

E. Instructions for advertising for, and handling early bid proposals.

F. A provisional reservation of state funds for participation in the matchable costs of design services incurred through the completion of the construction documents.

Issuance of this Form B-4a does **not** constitute a commitment of state funds for **construction** and **construction related design services.**

Sec. 911

Time Limit for Advancement of Projects

The Board of Directors of a school district authorized by the State Board of Education to prepare final plan and specifications for a school building project and for which the State Board has made a provisional reservation of state funds for architectural and engineering services must advertise for bids for construction of the project within twelve months after the issuance date of the authorization document.

An extension of time may be granted when failure to act within the specified time is due to conditions judged by the State Board to be beyond the control of the school district Board of Directors.

Failure to advertise for bids within the time limit specified in the authorization, or any extension thereof, shall void the authorization and the funds reserved thereunder shall revert to the state fund from which the reservation was made.

Sec. 910

Form B-4b, Provisional Allotment of State Funds, Early Bidding

This form is issued by the State Board of Education when **early bidding procedures** are to be utilized in construction of the project and after receipt of early bid data itemized in Form B-4a. This form includes a provisional allotment of state funds for participation in the matchable costs of design services incurred in the preparation of preliminary plans, early bid plans and specifications, final construction documents, a provisional allotment of state funds for participation in matchable costs of early bid items, and authorization to award early bid contracts or letters of intent.

Appendix

A. S.P.I. ASSISTANCE AVAILABLE:

Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W., Tumwater, Washington 98504 (Mail Stop FG-11) for consultant services to assist your school district.

B. ACKNOWLEDGEMENTS:

1. Consultants:
Manual Sub-Committee of the School Facilities Cost/
Advisory Board.

2. Technical Writer and Editor:
Robert T. Olson, A.I.A.
Olson-Rowe, Architects
4224 Sixth Ave. S.E., Bldg. 5
Lacey, Washington 98503

105

SCHOOL FACILITIES

CONSTRUCTION DOCUMENTS

10

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 10

CONSTRUCTION DOCUMENTS

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

FEBRUARY, 1981

Table of Contents

Sec. 1001 Types of Documents
Sec. 1002 Bidding Requirements
Sec. 1003 Bidding Procedures
Sec. 1004 Contract Documents
Sec. 1005 The Role of the School District
Sec. 1006 State Building Code
Sec. 1007 Insuring Against Risk
Sec. 1008 Bonds
Sec. 1009 Registration of Contractors
Sec. 1010 Resident Employees and Prevailing Wages
Sec. 1011 Labor Requirements
Sec. 1012 Equal Opportunity and Affirmative Action Programs
Sec. 1013 Safety and Health Regulations
Sec. 1014 Offshore Items
Appendix

Sec. 1001

Types of Documents

Before a construction project can be built, the architect/engineer must precisely describe his design to bidders, to the contractor and his subcontractors, and to the architectural and engineering field representatives. Successful completion of this task requires a set of coordinated construction documents.

Construction documents include the following:

A. Graphic documents (drawings) which show the size and extent of construction and geometric relations between the various construction components.

B. Written documents (project manual) which include:

  1. Contractual - legal requirements consisting of bidding documents, contract forms, and conditions of the contract (both general and supplementary).
  2. Specifications which cover the qualitative requirements for products, materials and workmanship.

Sec. 1002

Bidding Requirements

The bidding requirements contain information designed to invite bidders and to assist in obtaining proper submission of bids for construction. They are designed to help bidders follow the established procedures, understand the bid and award requirements, determine the intent of the construction documents, and submit bids that will not be disqualified by technicalities. The bidding requirements include:

A. Invitation to Bid or Advertisement for Bids.

B. Instruction to Bidders.

C. Bid Forms (Form of Proposal and Bid Security Forms).

Refer to Chapter 12 for further discussion of bidding requirements.

Sec. 1003

Bidding Procedures

Any one of the following bidding procedures are permissible and may be used at the discretion of the local school board without violating State Board of Education Building Assistance Rules. Fully discuss the merits of each procedure with your prime designer and legal counsel prior to making your selection.

A. Separate Bids:
Project manuals may require separate bids for general construction, mechanical work and electrical work, and stipulate the award of these three separate contracts on the basis of low bids.

B. Single Bid:
Project manuals may request a single bid for all work (general, mechanical and electrical) to be performed resulting in the award of one contract on the basis of low bid.

C. Single Bid with Assigned Subcontractors:
Project manuals may require the following procedures:

1. Not less than forty-eight hours before general bids are opened, each mechanical and electrical bidder shall submit his sealed bid to the school districts or its representative, complete with bid bond and other requirements. The bids shall be publicly opened and verified. The general bidders shall all be notified of the identity of the low mechanical and electrical bidders and of the amounts of such bids which shall be included as subcontracts in his bid for the work. Alternate bids may make it extremely difficult to ascertain low mechanical and electrical bidders.

2. One prime contract shall be entered into between the school district and the low responsive prime bidder for an amount including the low mechanical and electrical bids. The prime contractor shall be required to award the appropriate subcontracts to the low mechanical and electrical bidders.

Projects which are a combination of new construction and modernization work may be bid as one project if, in the form of proposal, costs for such new construction and modernization are clearly identified as separate sums which, when added together, equal the total bid. Any alternate bids which involve new construction and/or modernization costs must also be clearly identified in the same manner.

Proposals which include items to be financed entirely from school district local funds such as alterations and special testing without state assistance, shall clearly identify such items as separate costs or alternates in the Form of Proposal.

Cash allowances for any part of the work of the project are **not** permitted in any project which receives state assistance in funding.

Sec. 1004

Contract Documents

Included in the contract documents are the agreement, the drawings, and the project manual including the conditions of the contract and specifications.

A. The Agreement:
The agreement is the contract document that legally binds the school district and the contractor to the construction contract. It defines the relationships and obligations of each party and, by reference, incorporates the conditions of the contract, drawings, specifications and addenda, if any.

B. Drawings:
Drawings are a graphic representation of the proposed construction. They comprise three main elements:

1. Plans, which show horizontal relationships.
2. Elevations, which show vertical relationships and main exterior (and in some cases interior) features of the structure.
3. Sections and details, which show either horizontal or vertical relationships, generally in more detail for greater clarity and more complex content than can be illustrated on plans and elevations.

C. Project Manual:

1. Conditions of the Contract:
The conditions of the contract usually consist of two parts: the general conditions and the supplementary conditions.

The general conditions define the legal relationships, rights and responsibilities of the parties signing the agreement and establish how the project is to be administered. The general conditions are often published standard documents prepared by professional societies.

The supplementary conditions modify or supplement any standard general conditions to meet specific requirements for the project as determined by the local school district.

2. Specifications:
The specifications contain the general and qualitative requirements for materials and workmanship. The specifications must precisely define these qualities to assure use of correct materials and methods of assembly.

The preparation, compilation and correlation of construction documents requires close coordination and cooperation of a number of highly skilled and experienced professional and technical persons within the design team.

Sec. 1005

The Role of the School District

The active participation of school district personnel in reviewing preparation of the construction documents is essential to avoid misunderstandings and legal entanglements. The school district's project representative (Chapter 6) and legal counsel are important participants in the preparation and review of the construction documents.

In particular, it is important for the school district to have its legal counsel review the terms of the contract agreement and the conditions of the contract prior to advertising for bids.

The school district's insurance counselor should review and advise regarding all contractors liability and property insurance provisions and establish limits of liability to be furnished by the contractor.

Sec. 1006

State Building Code

Chapter 19.27 of the Revised Code of Washington establishes statewide performance standards and requirements for construction and construction materials by the adoption of the following codes:

A. Uniform Building Code and Related Standards, published by the International Conference of Building Officials.

B. Uniform Mechanical Code including Chapter 22, Fuel Gas Piping, Appendix B, published by the International Conference of Building Officials and the International Association of Plumbing and Mechanical Officials.

C. Uniform Fire Code with appendices thereto, published by the International Conference of Building Officials and the Western Fire Chiefs Association.

D. Uniform Plumbing Code, published by the International Association of Plumbing and Mechanical Officials. Note: Chapter 11 of this code is not adopted and notwithstanding any wording in this code, nothing in this code shall apply to the installation of any gas piping, water heaters, or vents for water heaters.

E. The rules and regulations adopted by the State Building Code Advisory Council establishing standards for making buildings and facilities accessible to and usable by the physically handicapped or elderly persons (Chapter 70.92 RCW).

F. The rules and regulations adopted by the State Building Code Advisory Council establishing thermal efficiency and lighting standards.

112

The State Building Code supersedes all county, city or town building regulations containing less than the minimum performance standards and objectives contained in the State Building Code. The governing bodies of each county, city or town may adopt such additional amendments to the state building code as they deem appropriate within their jurisdictions as shall not be less than the minimum performance standards and objectives adopted by the State Building Code Advisory Council.

The State Building Code is administered and enforced by the county, city or town governmental subdivision on school facility projects within its jurisdictional boundaries.

Sec. 1007

Insuring Against Risk

The school board needs to evaluate its liability arising from construction of the project, determine the potential for significant losses and insure against them where coverage is advised by the school board's attorney and an insurance broker experienced in writing construction coverages.

Selection of the type of insurance to be specified in the construction documents should be based on the requirements of each particular project. Some of the types of insurance available are:

A. Comprehensive General Liability Insurance.

B. Automobile Liability Insurance.

C. Owner's Protective Liability Insurance.

D. Builders Risk or All-Risk Insurance.

E. Workmen's Compensation Insurance.

The limits of liability to be specified deserve careful consideration. There is little or no relationship between the degree of risk which should establish the limits of liability and the size or monetary value of a project. Often, in multiple contract projects, one owner's protective policy or one all-risk (builders risk) policy with high limits of liability purchased by the owner may be more economical than several of the same policies at lower limits furnished by each contractor.

When specifying insurance to be provided by the contractors, a cancellation clause should be required for all policies. A cancellation clause is a statement on the certificate of insurance which obligates the insurance company to give written notice to the owner, often ten or fifteen days (preferably thirty days) prior to cancelling any policies.

Sec. 1008

Bonds

A. Bid Bonds:
Each bidder or any school project receiving state assistance in funding shall be required to submit, with his proposal, a bid guarantee in the form of a certified check, cashier's check or a bid bond in the amount of five percent of the amount bid which shall be subject to forfeiture by the bidder if he shall fail to enter into a contract with the school district for construction of the project when such contract is properly prepared and offered to the bidder. Bid Bonds must be written by a firm licensed to do business in the State of Washington and shall be accompanied by a Power of Attorney for the signator.

B. Performance and Payment Bonds:
Chapter 39.08 RCW requires that whenever any school district shall contract with any person or corporation to do any work for the school district, the school district shall require such person or corporation to make, execute and deliver to the district a good and sufficient bond conditioned that such person or corporation shall faithfully perform all the provisions of such contract and shall pay all laborers, mechanics and subcontractors and materialmen, and all persons who shall supply such persons or corporation, or subcontractors with provisions and supplies for the carrying on of such work.

These Performance and Payment Bonds in statutory form shall be filed with the county auditor of the county where such work is performed, except in cases of cities and towns in which cases the bonds shall be filed with the clerk or comptroller thereof.

The bonds shall be in an amount equal to a minimum of 100 percent of the contract sum, including any change orders authorized by the school district, plus an amount equal to the Washington State Sales Tax and any Local Sales or Use Taxes applicable to the contract.

Sec. 1009

Registration of Contractors

Local school districts are prohibited by law (Chapter 39.06 RCW) from executing a contract with any contractor who is not registered or licensed as required by the laws of the State of Washington. Additionally, cities, towns or counties are prohibited from issuing construction building permits without receiving proof of registration (Chapter 18.27 RCW).

The Form of Proposal submitted and executed by the bidders should require the bidder to set forth the contractor's license number and, to assure that the license is valid, state the date that the current license expires.

114

Sec. 1010

Resident Employees and Prevailing Wages

Chapter 39.16 RCW requires that in all contracts awarded by school districts for erection, construction, alteration, demolition or repair of any school facility, the contractor or subcontractor must employ 95% or more bona fide Washington residents as employees where more than 40 persons are employed, and 30% or more bona fide Washington residents as employees where 40 or less persons are employed. This limitation does not apply to that portion of any contract in which a manufacturer's warranty on equipment is contingent upon the manufacturer's use of his own factory-trained personnel for installation or repair which places such equipment under warranty.

The contractor is further required to pay the standard prevailing wages for the specific type of construction as determined by the United States Department of Labor in the city or county where the work is being performed. (Chapter 39.12 RCW).

Bidders for school facility contracts must be notified in the project manual for the work that they will be required to conform to all the provisions of these laws and that they shall furnish such evidence as may be required to indicate compliance therewith.

Sec. 1011

Labor Requirements

Contractors for school facility projects should be required at all times to employ workmen who are skilled in their respective trades. The contractors are restricted in their selection of labor, and payment therefor, by certain legal requirements which must be observed for compliance with the public policy enunciated in RCW 49.28. This refers to the eight hour day, payment for overtime, cancellation of contract for violations, and penalties for violations.

Sec. 1012

Equal Opportunity and Affirmative Action Programs

A. Nondiscrimination:

Discrimination in all phases of employment is prohibited by Title VII of the Civil Rights Act of 1964, Presidential Executive Order 11246 as amended by Executive Order 11375, the Washington State Law Against Discrimination, Chapter 49.60 RCW, and by Gubernatorial Executive Orders 6601 and 70-1, among other laws and regulations. Contractors who desire to provide your school district with equipment, supplies and/or professional services must comply with affirmative action contract requirements established by the Washington State Human Rights Commission and the Office for Equity Education, Superintendent of Public Instruction.

B. Contract Compliance for School Building Construction:

School districts should:

1. Appoint a school district contract compliance officer.
2. Continue to inform selected design professionals of their related legal responsibility.
3. Include, in the project manual, specifications and bidding documents, specific language provided by the Washington State Human Rights Commission. Forms for this language are available from your S.P.I. Office for Equity Education.
4. Continue to award contracts to prime contractors.
5. Not file any related reports with either the Superintendent of Public Instruction or the Washington State Human Rights Commission, except upon request. (Prime contractors are required to file monthly reports with the commission and the sponsoring school district).

The Washington State Human Rights Commission has compliance monitoring responsibility. The Office for Equity Education, Superintendent of Public Instruction, assists the Commission as requested.

C. Contract Compliance for Goods and Services:

School districts are:

1. Encouraged to request bidders and consultants to present some evidence of affirmative action.
2. Urged to award bids to businesses owned/operated by members of protected groups.
3. Requested to include specific language in vendor agreements provided by the Washington State Human Rights Commission.

The Office of the Governor is responsible for the administration of this program. The Washington State Human Rights Commission and the Office of Equity Education, Superintendent of Public Instruction, assist the Office of the Governor as requested.

Any questions or concerns regarding contract compliance should be directed to:

Washington State Human Rights Commission
402 Evergreen Plaza
Olympia, Washington 98504

Attn: Contract Compliance Specialist
Tele: (206) 753-6770

Sec. 1013

Safety and Health Regulations

The contract documents and actions of the contractor, sub-contractors, etc., shall be governed at all times by the requirements of the Washington Industrial Safety and Health Act (WISHA) in the enforcement of the Federal Safety and Health Regulations for Construction, as amended, and with the State of Washington, Department of Labor and Industries, Division of Safety "General Safety Requirements" and "Safety Actuated Tools" and "Occupational Health Standards" where same are more restrictive than the federal laws and standards.

The prime contractor and each subcontractor shall be required to immediately report all job accidents, injuries or health hazards to the WISHA officials in charge.

Sec. 1014

Offshore Items

The term "Offshore Items" means materials, supplies, goods, wares or merchandise procured from sources beyond the territorial boundaries of the United States including Alaska and Hawaii and utilized in the performance of a contract for public works.

Chapter 39.25 RCW requires that local school districts, when soliciting bids for school facility construction, shall furnish, upon completion of the contract, a statement certified by the bidder setting forth the nature of offshore items in excess of two thousand five hundred dollars which have been utilized in the performance of the contract. If offshore items, in the quantities stated, have not been utilized in the performance of the contract, the certified statement shall so state that fact.

The responsible purchasing officer of the school district is required to keep the certified statements regarding such offshore items and maintain them available for examination by the public for a period of five years from the date of their receipt.

Appendix

A. RESOURCES:

1. GUIDE FOR PLANNING EDUCATIONAL FACILITIES
   published by the:
   Council of Educational Facility Planners, International
   29 West Woodruff Avenue
   Columbus, Ohio 43210

B. S.P.I. ASSISTANCE AVAILABLE:

Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W., Tumwater, Washington 98504 (Mail Stop FG-11) for consultant services to assist your school district.

C. ACKNOWLEDGEMENTS:

1. Consultants:
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   Lacey, Washington 98503

SCHOOL FACILITIES

11

STATE ASSISTANCE

submittal, approval and authorization

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT
PROCEDURES MANUAL

CHAPTER 11

STATE ASSISTANCE

SUBMITTAL, APPROVAL & AUTHORIZATION

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

FEBRUARY, 1981

Table of Contents

Sec. 1101 Approvals Required

Sec. 1102 Health Agency Jurisdiction

Sec. 1103 Microfilming Bid Documents

Sec. 1104 Form B-5, Certification of Construction Documents and Final Cost Estimate

Sec. 1105 State Board Review

Sec. 1106 Form B-6, Approval and Authorization

Appendix

Sec. 1101

Approvals Required

The construction documents for the construction of a new school facility or any addition to, or modernization of, an existing facility or for any of the utilities connected with the facility shall be subject to review and approval of the following agencies:

A. The Fire Marshal having jurisdiction.

B. The State Electrical Inspector, Division of Labor & Industries.

C. The Health Agency having jurisdiction and (in some cases) the State Department of Ecology. Refer to Sec. 1102.

D. The Building Authority having jurisdiction.

E. The Washington State Energy Office (if supplements are submitted).

These agencies shall review the construction documents with respect to their compliance with the rules and regulations adopted by them and written approval must be obtained. Any exceptions noted by the reviewing agencies shall be corrected by issuance of an addenda to the documents.

Copies of all agency approvals must be forwarded to the Office of the Superintendent of Public Instruction prior to the issuance of Form B-6 or opening of bids.

In addition, the energy conservation report supplement or energy standards report supplement (if required) shall be submitted to the Washington State Energy Office.

It is the responsibility of the school district to insure that approvals are received in a timely manner.

Sec. 1102

Health Agency Jurisdiction

All school facility projects must be evaluated and approved by the local health department.

In addition, projects containing provisions for on-site waste water treatment (septic tanks, etc.) must be reviewed by one of the following:

A. Projects generating waste water volumes up to 3,500 gallons per day may be reviewed by the local Health Department.

B. Projects generating more than 3,500 gallons per day and up to 14,500 gallons per day must be reviewed by the State Department of Social and Health Services.

C. Projects generating more than 14,500 gallons per day must be reviewed by the State Department of Ecology.

Waste water flow generation is normally projected by estimating the number of gallons generated per student each day. This estimate will vary from 10 to 25 gallons per student, per day depending upon the types of water uses (food preparation, shower facilities, etc.) incorporated in the proposed facility.

Sec. 1103

Microfilming Bid Documents

All construction documents and early bid documents shall be sent directly to DODGE/SCAN, 315 North Tower, 100 West Harrison Plaza, Seattle, Washington 98119, or call (206) 284-3811 for pickup and delivery instructions. **Do not send bid documents to the Office of the Superintendent of Public Instruction**. Microfilmed copies of all documents will be transmitted to the SPI office by DODGE/SCAN. All addenda documents issued during the bidding period shall also be sent to DODGE/SCAN for microfilming.

The Superintendent of Public Instruction will retain microfilm copies of all construction documents on file in his office.

There is no cost to the local school district for this service.

Sec. 1104

Form B-5, Certification of Construction Documents and Final Cost Estimate

This form is completed by the prime designer and school district for transmittal to the State Board of Education. This form includes an analysis of the final square foot area of the project and (if the project has been enlarged since receipt of the Form B-5) a statement of whether or not the project is to be resubmitted to the State Board of Education, a final cost estimate of the project and certification of construction document compliance with all applicable codes, ordinances, regulations and statutory provisions relating to public works.

Sec. 1105

State Board Review

Applications for state assistance in financing school building construction must be processed and verified by the Facilities and Organization Section of the Office of the Superintendent of Public Instruction prior to referral to the State Board of Education.

The State Board of Education meets on a scheduled basis to conduct its business. Deadline dates for submittal of items for consideration by the State Board of Education are established by the Office of the Superintendent of Public Instruction for each meeting to allow time for processing and verification. These dates can be ascertained by contacting your S.P.I. consultant. Applications received after the deadline will be processed as quickly as possible but may not appear on the agenda until the meeting following that for which the deadline date was established.

When the Form B-5 indicates that the project does not exceed the approved square foot area designated in Form B-4, or if any excess area is to be financed entirely by the local school district, the State Board of Education will not need to consider the project at its regular meetings. Approval and authorization to proceed with the project can be granted by the Office of the Superintendent of Public Instruction without an appreciable delay or waiting period.

Sec. 1106

Form B-6, Approval and Authorization

When, upon review of the final construction documents, final cost estimates, receipt of approvals from the other agencies having jurisdiction, and receipt of such updated enrollment and fiscal data as may be necessary for determination of current eligibility under statutory provisions and state board regulations, it is found that the project continues to be eligible and that the documents are satisfactory and that state funds are available, the State Board of Education will issue Form B-6 which includes a preliminary allotment of state funds, approval of final plan and specifications, authorization to advertise for bids, preliminary financial program detail, computation of percentage of state assistance and a preliminary financial plan for the project.

Upon receipt of Form B-6, the local school district may call for, and receive, proposals for construction of the project. **Opening proposals prior to receipt of Form B-6 constitutes a violation of State law and no State funds will be allocated to the project because of such violation.**

The preliminary allotment of state funds contained in Form B-6 is a guarantee of state participation in financing design and construction of the project in accordance with the adopted financial plan.

Appendix

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SCHOOL FACILITIES

12

BIDDING

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 12

BIDDING

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

FEBRUARY, 1981

Table of Contents

Sec. 1201 Bidding Public Works

Sec. 1202 Contract Awarding Methods

Sec. 1203 Advertising for Bids

Sec. 1204 Revisions to Construction Documents During Bidding

Sec. 1205 Opening of Bids

Appendix

Sec. 1201

Bidding Public Works

Upon the completion and approval of the final construction documents (drawings and project manuals) with the bidding requirements, a school project is ready to be released to contractors to obtain proposals or bids.

Sec. 1202

Contract Awarding Methods

Contracts for construction are awarded by two basic methods:

A. Competitive Bidding:
This is the method by which the majority of all construction contracts are awarded. On most private work, bidders are invited from a list controlled by the owner and the prime designer. For public work, such as school facilities, and some private projects, the bidding is open to any contractor who can provide a guarantee of his financial ability to perform the contract, and meets bidding and qualifying requirements. In competitive bidding, each bidder submits a sealed proposal to execute the work of the project, or portion thereof, for a specified sum.

B. Direct Selection:
This is a method wherein a contractor is directly selected to perform the work of the contract without being required to submit a bid on a competitive basis with other contractors. This method is used on some private work but is not allowed on public work contracts unless unusual or emergency circumstances preclude the use of competitive bidding. Be certain to obtain approving legal advice prior to consideration of direct selection for school facility construction. Direct selection is **absolutely** prohibited if the project is being partially funded by state funds.

Sec. 1203

Advertising for Bids

Bids may be invited by preparing, distributing and publishing an invitation or advertisement for bids. This invitation or advertisement is a document containing a brief description of the project and stating the time and place of receiving the bids; where the bidding documents may be examined or obtained and the deposit required therefor; and any conditions which are attached to preparing, submitting and opening the bids.

The selection of the date when bids are to be received should take into account other projects which are being bid, both in the immediate locality and in nearby areas on the same date. A failure to consider such other projects may result in high bid figures and sometimes only a limited number of bids or no bids at all. Occasionally, the firms intending to bid on a school project will request an extension of the due date. Such requests should be carefully considered and granted if possible, for they usually result from contractors' inability to obtain quotations or insufficient time to estimate those portions of the work to be done by the contractor's own crews. Failure to extend the due date may again result in high figures or a lack of bids.

Since the State Board of Education usually reconsiders the square foot cost level of state support on alternate months, it may be advantageous for the school district to determine from their S.P.I. consultant when the cost adjustment might be made in relation to the time they choose to open bids for their project. It would not be advantageous, for instance, to open bids immediately prior to the reconsideration of the square foot cost level, if such level is expected to rise.

An invitation or advertisement for bids on any school building project approved by the State Board of Education for state participation in financing **must** be published once each week for two consecutive weeks in a journal of general circulation, such as the Daily Journal of Commerce or Northwest Construction News, and a like number of times in a publication circulated throughout the local area. Be sure to obtain copies of the advertisement in the form that it is published along with certification, by the publisher, of its publication dates for later submittal to the State Board of Education with Form B-7.

Many localities have a builders' and suppliers' plan exchange which maintains facilities where the bidding documents may be examined by all contractors, subcontractors and suppliers. If such facilities are available in your area, be sure to send your bidding documents to them to assure maximum exposure for your project. Do not neglect to send bidding documents to any minority contractors' organization in your locality. The appendix to this chapter contains a partial listing of these facilities.

Sec. 1204

Revisions to Construction Documents During Bidding

Any changes or revisions to the construction documents that are adopted after submittal to the State Board of Education of the B-5 Form must be handled as an addendum to the bidding documents and sent to DODGE/SCAN for microfilming in the same manner as the previous documents were in the B-5 Form process (refer to Chapter 11).

Sec. 1205

Opening of Bids

Each proposal or bid must be completely sealed by the bidder in a separate envelope, properly addressed to the owner, with the name and address of the bidder and the name of the project for which the bid is submitted, plainly written on the outside of the envelope.

Bids will be received at the time and place stated in the invitation or advertisement for bids. It is the sole responsibility of the bidder to see that his bid is delivered in time. Any bids received after the scheduled closing time for receipt of bids must be returned to the bidder unopened.

Bidders may, without prejudice, withdraw, modify, or correct their proposals after they have been deposited with the owner, providing their request to do so is filed with the owner, in writing or by written telegrams, before the time set for opening proposals.

At the time and place set for opening and reading the proposals in the advertisement for bids, each and every proposal (except any which may have been properly withdrawn) received prior to the scheduled closing time, must be publicly opened and read aloud. Be sure to read aloud all bid prices, alternative bids, unit prices, time for completion, acknowledgement of receipt of addenda and any other similar information required of the bidder on the form of proposal. Publicly acknowledge the bid guarantees, in form received. Any discrepancies or any irregularities noted during the reading should be recorded on the bid tabulation or in the minutes of the bid opening.

Tabulate all bids as received and make these tabulations available to the public as soon as practicable.

Caution - do not open any proposals or bids prior to the receipt of Form B-6 from the State Board of Education. Opening such proposals or bids prior to the receipt of Form B-6 constitutes a violation of state law and will result in forfeiture of state funds allocated or reserved for the project.

Appendix

A. RESOURCES:

1. GUIDE FOR PLANNING EDUCATIONAL FACILITIES
published by the:
Council of Educational Facility Planners, International
29 West Woodruff Avenue
Columbus, Ohio 43210

B. PLAN EXCHANGES:

1. Northwest Construction Council (A.G.C.)
1200 Westlake Avenue North
Seattle, Washington 98109

2. Northwest Plan Center
1213 Valley Street
Seattle, Washington 98109

3. Construction Data Plan Center
1245 4th Avenue S.
Seattle, Washington 98134
or: P.O. Box 3165
Seattle, Washington 98114

4. Sea-Port Business Development Center
3406 Rainier Avenue S.
Seattle, Washington 98108

5. Construction Data & News
824 5th Avenue N.
Seattle, Washington 98109

6. Associated General Contractors of America (A.G.C.)
Tacoma Chapter
3830 S. Pine
Tacoma, Washington 98411

7. Associated Subcontractors of the State of Washington, Inc.
2340 Tacoma Avenue S.
Tacoma, Washington 98402

8. Minority Contractors Pierce County Association
1036 S. Sprague
Tacoma, Washington 98405

9. Olympia Plan Service
P.O. Box 1246
Olympia, Washington 98507

10. Northwest Plan Center
1609 B Broadway
Bellingham, Washington 98225

11. Wenatchee Construction Council
134 S. Mission
Wenatchee, Washington 98801

12. Columbia Basin Construction Council
821 W. Broadway
Moses Lake, Washington 98837

13. Associated General Contractors
Inland Empire Chapter
East 4935 Trent Avenue
Spokane, Washington

14. Spokane Construction Council
East 102 Boone Avenue
Spokane, Washington 99202

15. Yakima Plan Center
528 Right Avenue
Box 2487
Yakima, Washington 98907

16. Tri-Cities Construction Council
34 Vista Way
Kennewick, Washington 99336

17. Lewiston-Clarkston Plan Service
2050 E. 13th Street
Clarkston, Washington 99403

18. Blue Mountain Plan Center
29 East Sumach
Walla Walla, Washington 99362

19. Builders Exchange Co-op Plan Center
1125 S.E. Madison
Portland, Oregon 97214

C. S.P.I. ASSISTANCE AVAILABLE:

Contact the Division of Financial Services, Facilities and Organization Section, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W., Tumwater, Washington 98504 (Mail Stop FG-11), for consultant services to assist your school district.

D. ACKNOWLEDGEMENTS:

Consultants:
Manual Sub-Committee of the School Facilities
Cost/Advisory Board.

2. Technical Writer and Editor:
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Lacey, Washington 98503

SCHOOL FACILITIES

EVALUATION and AWARDS

13

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT
PROCEDURES MANUAL

CHAPTER 13

EVALUATION AND AWARDS

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

MAY, 1981

Table of Contents

Sec. 1301 Evaluation of Bidders

Sec. 1302 Evaluation of Proposals

Sec. 1303 Negotiation

Sec. 1304 Form B-7, Transmittal of Bid Documents

Sec. 1305 Form B-8, Final Allotment of State Funds

Sec. 1306 Construction Contracts

Appendix

135

Sec. 1301

Evaluation of Bidders

A. Qualification:
The bidder must be qualified by experience, financing and equipment to do the work called for in the drawings and project manual. He must also be registered as a contractor in the State of Washington in accordance with state law and such registration must be valid at the time of submitting his proposal and be maintained valid throughout the course of the work of the project.

The school district may request from the bidder satisfactory evidence of financial resources, his construction experience and his organization available for performance of the proposed contract.

B. Disqualification:
The local school board may, at its discretion, determine that a bidder is not responsible and reject his proposal for any of the following reasons:

1. More than one proposal on the same project from a bidder under the same or different names.
2. Evidence of collusion with any other bidder or bidders. Participants in such collusion should be disqualified from submitting bids on any further work of the school district.
3. If a bidder is not qualified for the work involved or to the extent of his bid.
4. Unsatisfactory performance record, judged from the standpoint of conduct of work, workmanship, or progress, as shown by past or current work for the school district.
5. Uncompleted work, whether for the school district or otherwise, which might hinder or prevent the prompt completion of the work bid upon.
6. Failure to pay or settle bills for labor and materials on any former or current contracts.
7. If the bidder has previously defaulted in the performance of or failed to complete a written public contract, or has been convicted of a crime arising from a previous public contract.
8. Any other inability, financial or otherwise, to perform the work.
9. A bidder not authorized to do business in the State of Washington.
10. For any other reasons deemed proper as determined from a preaward survey of the bidder's capability to perform.

Extreme caution must be observed by the local school district in disqualification of a bidder (especially on the basis of an unsatisfactory past performance record). Previous failures or other problems in the past are not, in themselves, proof of inability to perform on new work. The burden of proof of inability to perform would fall upon the school district should the bidder take his case into court. Disqualification of bidders on public work projects is not a step to be taken lightly; competent legal counsel is required to justify such action.

Sec. 1302

Evaluation of Proposals

All bids should be tabulated (Chapter 12) and a statement of all bids received including complete names and addresses of all bidders, all base bids, alternatives, unit prices, acknowledgement of receipt of addenda and acknowledgement of receipt of bid guarantees shall be prepared and certified by the prime designer and the school district.

Upon consideration by the local school board of the bids, the amount of funds available for construction of the project and qualifications of the bidders, the board of directors of the local district shall adopt a recommendation for the awarding of a contract or contracts and shall itemize any alternative bids to be accepted.

Sec. 1303

Negotiation

The State Board of Education will approve for participative financing **only** those school building contracts where the original contract price for the construction has been established by competitive bids. Negotiated contracts will not be approved by the State Board of Education.

Sec. 1304

Form B-7, Transmittal of Bid Doucuments

Upon adoption of the recommendation for the award of bids, the school district shall complete Form B-7 and transmit it to the State Board of Education.

This form includes a statement of project cost and an itemization of items to be financed entirely with local school district funds.

The following supporting documents must be submitted with Form B-7:

A. Certified copy of recommendation for the award of bids as adopted by the local school board.

B. Certified copy of **each** advertisement for bid and certification of publication.

C. Certified statement of all bids received.

D. Signed statement by prime designer of analysis of total cost of project, square foot area and square foot cost.

E. Signed statement by prime designer of cost for preparation of energy conservation report, if such charge is in addition to basic services.

F. Certified statement of amount of local and/or other funds, with source of funds identified.

Sample forms for many of the above statements may be found in the "Additional Information" of this manual.

Sec. 1305

Form B-8 Final Allotment of State Funds

Upon determination that the applicant school district has satisfactorily complied with all requirements, the State Board of Education will issue Form B-8.

This form constitutes a final allotment of state funds, outlines the financial program and authorizes the local school district to award contracts for the construction of the project.

Sec. 1306

Construction Contracts

Upon receipt of Form B-8, the local school district may prepare and award contracts for construction of the project.

Construction contracts shall be prepared in the form stipulated in the project manual and shall be reviewed and approved as to form by the local school district's legal counsel or county prosecuting attorney.

Immediately following the awarding of contract(s), the school district shall forward one signed or certified copy of each construction contract to the State Board of Education.

Appendix

A. RESOURCES:

1. STANDARD SPECIFICATIONS FOR MUNICIPAL PUBLIC WORKS CONSTRUCTION
   prepared by the
   Washington State Chapter
   American Public Works Association

B. S.P.I. ASSISTANCE AVAILABLE:

Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W. (Mail Stop FG-11), Tumwater, Washington 98504, for consultant services to assist your school district.

B. ACKNOWLEDGEMENTS:

1. Consultants:
   Manual Sub-Committee of the School Facilities Cost/ Advisory Board
2. Technical Writer and Editor:
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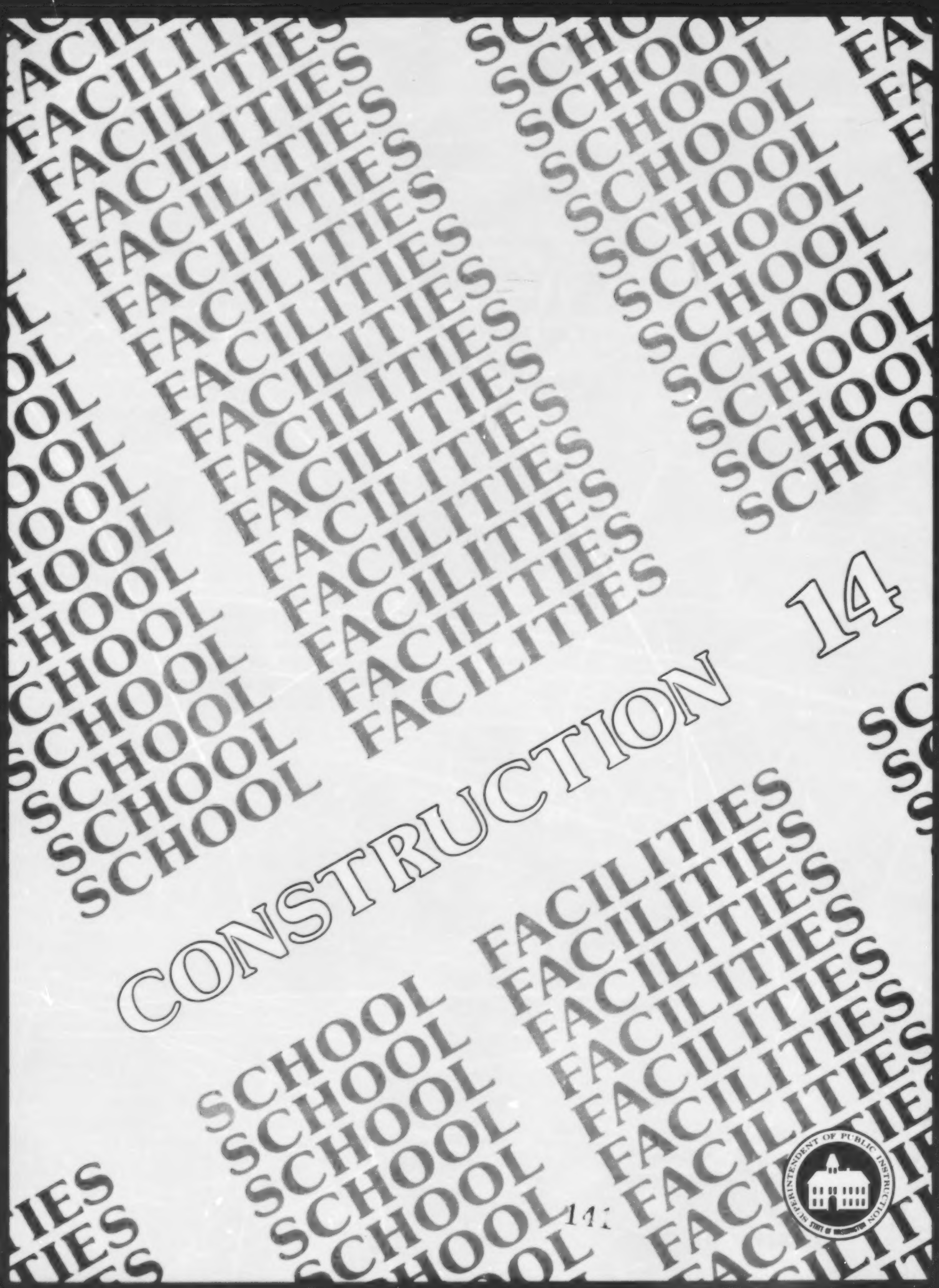
SCHOOL
FACILITIES

CONSTRUCTION

14

SUPERINTENDENT OF PUBLIC INSTRUCTION
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CHAPTER 14

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OLYMPIA, WASHINGTON

MAY, 1981

Table of Contents

Sec. 1401 Project Management - Participants

Sec. 1402 Documents Required Prior to Start of Construction

Sec. 1403 Cash Flow Schedule

Sec. 1404 Construction Scheduling

Sec. 1405 Quality Control Procedures

Sec. 1406 Preconstruction Conference

Sec. 1407 Job Progress Meetings

Sec. 1408 Prevailing Wage Statements

Sec. 1409 Affirmative Action Requirements

Sec. 1410 Progress Payments and Retainage

Sec. 1411 Payment Procedures - State Participation

Sec. 1412 Change Orders - Field Orders

Sec. 1413 Form B-8a, Approval of Revised Costs or Financing

Sec. 1414 Arbitration

Sec. 1415 Mediation

Sec. 1416 Warranties

Sec. 1417 Substantial Completion

Sec. 1418 Claims for Damages/Liquidated Damages

Sec. 1419 Final Completion and Acceptance

Sec. 1420 Final Payment

Appendix

Sec. 1401

Project Management - Participants

The principal participants in management and administration of the construction phase of the project are the contractor(s), prime designer, and the school district's project representative. For each of these parties, a single point of communication (authorized representative) should be designated and the lines of decision-making and responsibility be agreed upon by all parties. Frequently, the major design consultants and subcontractors will have designated representatives who will assist in project management, reporting directly to the prime designer or general contractor who is responsible for the coordination of their work.

Normal construction practice assigns the following duties and responsibilities to the participants as follows:

A. The construction contractor is generally responsible for:

  1. Ordering and receiving the necessary permits, materials, equipment and components required for the work.
  2. Employing and supervising the craftsmen, tradesmen, mechanics and subcontractors necessary to produce and assemble the materials, equipment and components.
  3. Managing the work in a lawful manner and vigorously enough to meet the completion schedule established in the contract documents.
  4. Cooperating with other prime contractors (if any) participating in the work and with all officials or agencies having jurisdiction over the work.
  5. Paying for, in a timely manner, all permits, materials, equipment, components, together with all labor and subcontract costs.
  6. Adherence to all of the provisions of the drawings and project manual.

B. The design team is generally responsible for the administration of the contract between the school district and the construction contractor. This administration includes:

  1. Interpretation of the drawings and project manual.
  2. Establishing the standards of acceptability.
  3. Observing the performance of the contractors.
  4. Assisting in processing the contractor's shop drawings, submittals, samples, etc.
  5. Verifying the accuracy of applications for payment from the contractors and issuing certificates for payment to the school district.
  6. Keeping the school district informed regarding the status of the work of the contract.
  7. Performing a special inspection for determining the date of substantial completion of the work.
  8. Certifying final completion of the work.
  9. Reviewing maintenance and operating manuals.
  10. Performing the one-year contractor's warranty inspection.

C. The school district is responsible for:

  1. Provision of special inspections and/or testing of the work.
  2. Provision of continuous on-site inspection.
  3. Paying for the work of the contract in a timely manner upon receipt of certificates for payment.
  4. Prompt consideration of any questions, change order proposals, etc., when submitted by the design team and the contractor.
  5. Participation in special inspections for determining substantial and final completion of the work.
  6. Participation in the one-year contractor's warranty inspection.

In practice, the best inspection and administration of the work is **continuous** inspection. Without it, errors may occur that are costly or even impossible to correct after completion of the project. Normal design contracts do not require the design professionals to be responsible for exhaustive or continuous construction administration. The school district many times would be well advised to consider employing a full-time, on-site representative to maintain continuous comprehensive construction administration to supplement the services of the prime designer.

Sec. 1402

Documents Required Prior to Start of Construction

The following documents should be executed by the contractor and delivered to the owner for his review and approval prior to start of construction:

A. Agreement between contractor and owner.

B. Required surety bonds.

C. Certificates of insurance.

D. Wage rate statement.

E. Lists of subcontractors and suppliers.

F. Schedule of values.

G. Schedule of construction activities.

H. Proof of issuance of building permit.

I. Product ordering time schedule.

Sec. 1403

Cash Flow Schedule

When the schedule of values and the schedule of construction activities have been received, the school district representative, the design team and the contractor should meet and establish a cash flow schedule which should stipulate the monies needed, on a monthly basis, throughout the progress of the construction work.

This cash flow schedule should include not only the construction costs but design costs, testing and special inspection costs and expenditures for furnishings and equipment, etc. This schedule is intended to provide as accurate an estimate as is possible in order to allow the local school district and the State Board of Education to prudently manage the funds invested for the project and enable them to have funds ready for payments in a timely manner.

When the cash flow schedule has been established, the school district shall complete Form B-9, Contemplated State Payment Schedule, and submit it to the State Board of Education. Keep in mind the requirement that local and other funds must be expended fully on the project prior to payment of any state funds toward the project.

Sec. 1404

Construction Scheduling

Present common practice requires the contractor to prepare a time schedule for the progress of the project in the form of a horizontal bar chart identifying each trade or operation utilized in the work. Such schedules often are not detailed enough to be meaningful and useful in coordinating the work and in forecasting work delays during the progress of the work; unless the project is relatively simple and uncomplicated. Multiple contract projects are exceedingly difficult to effectively coordinate through the use of bar charts.

Another technique presently gaining wide acceptance is the CPM (Critical Path Method) of construction scheduling. This technique requires time schedule requirement input from all participants in the construction project including material and equipment manufacturers and suppliers. Once the input from all participants is received, a system time framework can be charted and agreed upon by all parties involved. This chart, when properly prepared, clearly illustrates which activities are critical to the timely completion of the work and provides a time frame allotment which can be measured and evaluated daily, if necessary. Use of CPM will add cost to the project, but might well prove economical in the overall viewpoint by contributing to the efficiency of the contractor and his subcontractors and eliminating contingency costs included for their own protection.

Sec. 1405

Quality Control Procedures

Many building codes and most design professionals require that independent testing agencies monitor certain phases of the construction work and provide necessary testing procedures to substantiate that the materials comply with the intent of the construction documents. Such testing is encouraged to assure improvement of the overall quality of work. It is far less expensive to discover and correct deficiencies during construction than it is several months or years after the project is completed and the effect becomes apparent.

In the past, contractors were required to hire and pay for the services of testing laboratories to do this work. This, in effect, requires the contractor to test his own work and raises the question as to the quality and reliability of such testing.

When testing agencies are under contract directly to the owner, there is no question as to where their responsibilities lie and this practice should be encouraged.

Please note that, at present, materials testing costs are not eligible for state participation in funding and such costs, if included in the contract for the work, must be clearly and separately identified in the bidders' proposal form.

Items often requiring specialized testing include:

A. Existing soils conditions.

B. Job related soil conditions, fills, compaction, etc.

C. Concrete materials and placement.

D. Roofing materials and installation.

E. Structural steel materials, fabrication and erection.

F. Specialized structural components.

G. Mechanical systems.

H. Waste and water systems.

I. Electrical systems.

J. Alarm and communication systems.

When utilizing special testing procedures, be certain that all tests are observed by representatives of the general contractor, appropriate subcontractors, school district, appropriate building authorities and design consultants.

Sec. 1406

Preconstruction Conference

Prior to start of construction, a meeting should be conducted between the:

A. Owner's designated representative.
B. Prime designer and his professional consultants.
C. Resident project representative (if any).
D. Prime contractor and/or his superintendent.
E. Major subcontractors.
F. Major suppliers (if applicable).
G. All utilities and building authorities involved.

This meeting should be for the primary purpose of presenting and clarifying to all present the following:

A. List of major subcontractors and suppliers.
B. Projected construction time schedule.
C. Critical work sequencing.
D. Major equipment deliveries and priorities.
E. Designation of responsibilities for coordination.
F. Procedures and processing of:
    1. Field decisions.
    2. Proposal requests.
    3. Submittals and shop drawings.
    4. Change orders.
    5. Applications for payments and time frame requirements for processing.
G. Adequacy of distribution of construction documents.
H. Procedures for maintaining record documents.
I. Use of premises.
J. Construction facilities, controls, etc.
K. Temporary utilities.
L. Safety and first-aid procedures.
M. Security procedures.
N. Housekeeping procedures.

Minutes should be taken of the meeting (tape recordings are advisable), including all significant proceedings and decisions, and distributed to all participants in the meeting and all other parties concerned or affected by the decisions made at the meeting.

It is suggested that the prime designer be designated the responsibility to schedule and arrange for this meeting, preside at the meeting, and record, reproduce and distribute the minutes thereof.

Sec. 1407

Job Progress Meetings

Regularly scheduled on-site meetings between the representatives of the contractor, prime designer and the school district make the key to successful completion of the work. Those attending these meetings should include:

A. Owner's designated representative.

B. Prime designer's representative.

C. Professional consultant's representatives as needed.

D. Resident project representative (if any).

E. Prime contractor and/or his representative.

F. Subcontractors as appropriate to the agenda.

G. Suppliers as appropriate to the agenda.

Most problems related to the project can be resolved at these meetings. A suggested agendum for these meetings would include:

A. Review, approval of minutes of previous meeting.

B. Review of work progress since previous meeting.

C. Field observations, problems, conflicts.

D. Problems which impede construction schedule.

E. Review of off-site fabrication, delivery schedules.

F. Corrective measures and procedures to regain projected schedule.

G. Review of construction schedule and revision as appropriate.

H. Review submittals.

I. Maintenance of quality standards.

J. Pending changes and substitutions.

K. Review proposed changes for:

   1. Effect on construction schedule and completion date.

   2. Effect on other contracts of the project.

L. Other business as appropriate.

Minutes should be taken of the meetings, including all significant proceedings and decisions, and distributed to all participants in the meeting and all other parties concerned or affected by the decisions made at the meeting.

Either the prime designer or the prime contractor may be designated the responsibility to schedule and arrange for these meetings, preside at the meetings, and record, reproduce and distribute the minutes thereof.

Sec. 1408

Prevailing Wage Statements

Before starting work on a school facility contract, each contractor and subcontractor shall file with the school district and with the Director of Labor and Industries a Statement of Intent to Pay Prevailing Wages (S.F. No. 9882). This form must be accompanied by a list of each contractor and all subcontractors for the project.

At the conclusion of the contract, before release of the retained percentage, each contractor and subcontractor shall submit an Affidavit of Wages Paid (S.F. No. 9843) for certification by the Director of Labor and Industries in accordance with RCW 39.12.040.

The retained percentage withheld on a school facility contract **cannot** be paid until receipt of an Affidavit of Wages Paid, properly certified by the Department of Labor and Industries, for each contractor and each of his subcontractors.

Sec. 1409

Affirmative Action Requirements

The contractor must select the method he will use in complying with affirmative action requirements (see Chapter 10) and notify the school district of his selection.

The contractor must report, each month, the total employment and minority employment by craft (electricians, carpenters, etc.), other employees of the general contractor, and include the same information for all subcontractors working during the period. Copies of these reports shall be forwarded monthly to the Office of the Superintendent of Public Instruction, and to the Washington State Human Rights Commission.

The contractor and the school district (or its' compliance agent) shall hold a conference at such time as the school district shall deem it necessary to discuss affirmative action with regard to equal employment opprotunity, review reports and evidence of good faith efforts to determine the affirmative action status of the contractor.

Sec. 1410

Progress Payments and Retainage

Payments to contractors are commonly made on a monthly basis. The contractor submits a statement to the prime designer (request for payment), who in turn attaches a certificate for payment if the request meets with his approval. The request is then forwarded to the school district where it may be checked by the contract management official. The request for payment often follows a time-consuming route. The school district which is regularly prompt in making payments is often rewarded with lower bids on its projects.

Washington state law requires an amount to be retained from each progress payment. This retained amount is a sum equal to 10% (ten percent) of the first one hundred thousand dollars and 5% (five percent) of all amounts over one hundred thousand dollars. At any time after fifty percent of the original contract work has been completed, the school district may make any of the subsequent payments in full if it finds that satisfactory progress is made; but in no event shall the amount to be retained be reduced to less than five percent of the amount of the entire contract.

Retained monies may, at the contractor's written option, be retained in a fund by the school district or placed in escrow with an approved bank or trust company for investment in authorized bonds or securities with interest on such investments accruing to the contractor. All retained funds shall be held until thirty days following final acceptance of the work of the contract subject to requirements listed in Section 1419.

On projects cooperatively financed by school districts and the State of Washington, detailed instructions on payment procedures are available from the Office of the Superintendent of Public Instruction. These instructions are furnished for the information and guidance of school district officials, design professionals and contractors. Further assistance may be obtained by contacting the School Facilities Accountant, Division of Financial Services, Office of the Superintendent of Public Instruction.

Sec. 1411

Payment Procedures - State Participation

On projects cooperatively financed by school districts and the State of Washington, design and construction funds shall be disbursed in the following manner:

A. Initial payments shall be made from school district local funds on all claims submitted by the design team and contractors until such time as the total amount of the local funds obligated by the school district for its share of the cost of the project has been expended (including equipment purchases).

B. Subsequent payment from state funds shall be paid on all further claims submitted by the design team and contractors.

Equipment purchases must be completed within 180 days following final acceptance of the building project by the school district. Equipment can be purchased by separate bids or alternate bids in the general contract. When all equipment as set forth in the equipment allowance (Form B-8) has been purchased, the school district may submit Form B-751 to the State Board of Education for reimbursement.

Sec. 1412

Change Orders - Field Orders

It is a very rare project indeed for which no changes are required in the construction contract documents after their initial execution by the school district and the contractor. Most changes are not the result of some fault on the part of a party to the project; rather, they are usually due to the complexities of construction, unforseen conditions, changes in the school district's requirements or other similar factors. The school district that insists on permitting only self-generated changes to the contract will find their design team and contractor hesitant to suggest changes that could result in economies and improvements as they might become apparent during the construction progress.

Changes in the contract documents must be verified by "Field Orders" or "Change Orders". These orders are documents which are added to the construction documents after the award of a contract to clarify, revise, add to, or delete from the previous requirements. The two most frequent reasons for the issuance of such orders are:

A. To correct or clarify the contract documents to eliminate errors, omissions or discrepancies.

B. To incorporate design changes requested by the school district, including the expansion or reduction of the scope of work (care must be taken in revising the scope of work to avoid conflict with state law).

If the desired change involves no revision of the contract price or completion time, it can be affected by a "Field Order" signed by the prime designer and distributed to all parties of the contract.

Should revision of the contract price be involved in a desired change, the prime designer should detail the proposed changes to the contractor and provide all additional drawings and/or specifications necessary.

The contractor is then asked to submit a change order proposal detailing the costs and/or changes in construction time necessitated by the proposed change order for consideration by the prime designer and school district. Upon agreement about costs and construction time, the prime designer prepares a "Change Order" which (1) is signed by the school district, (2) is signed by the contractor and (3) may be co-signed by the prime designer as an indication that he is aware of the agreed change. Additionally, the contractor's surety, who provided his required bonds for construction, should be notified of the proposed change order and should consent to the provisions of the change order.

Except in unusual circumstances, it is not wise to allow the contractor to proceed with the work authorized by a change order until the change order has been accepted and signed by all parties to the contract. When emergency circumstances require immediate action on the part of a contractor in performing work which was not included in the original contract, a "Field Directive", signed by the prime designer and the school district, may be issued authorizing extra work to be performed at a specifically limited cost stipulated in the directive. Changes in the work accomplished under a field directive must be incorporated into a change order as soon as practicable after the issuance of a field directive.

Project cost decreases resulting from change orders shall be credited to school district and state funds, the amounts respectively to be computed on the same basis as for final allocation of state funds.

Copies of all change orders, whether related to cost increases or decreases, shall be furnished to the State Board of Education at the completion of the project.

Since change orders frequently are unavoidable, it is recommended that the school district provide for such contingencies by reserving funds for this purpose.

Sec. 1413

Form B-8a, Approval of Revised Costs or Financing

If changes are made in the construction documents or if the financing plan is revised, and if such changes require the approval of the State Board of Education, Form B-8a will be issued to the school district by the State Board of Education upon approval of such changes or revisions.

Sec. 1414

Arbitration

Arbitration, often used to settle construction disputes, is the voluntary submission of a dispute to a disinterested person or persons for final judgement. Arbitration can be done through an informal agreement between the two parties, or the parties can adopt the rules set forth by one of a number of groups such as the American Arbitration Association (AAA).

Stipulations calling for arbitration in the case of a dispute can be included in the original contract, or as a rider. Alternatively, an agreement to arbitrate can be signed when a dispute arises.

Arbitration of a dispute involving construction contracts offers a number of advantages over bringing a problem into court. Perhaps the most important **is** the arbitrator. Arbitrators can be engineers, contractors, or architects who are familiar with the concepts in question and who know prevailing practices. The expenses of arbitration can be considerably lower than those of litigation. The amount of time spent in arbitration usually is much less than that spent in court. Arbitration usually takes less than five or six months, while litigation seldom takes less than a year.

Arbitration can be performed according to informal guidelines set up by the involved parties, but since a problem in communication may already exist, it may be better to use the guidelines and assistance offered by the AAA. A list of the AAA regional directors, plus the full construction industry arbitration rules can be obtained from the AAA, 140 West 51st St., New York, N.Y. 10020.

Sec. 1415

Mediation

Arbitration is not the only alternative to litigation. There's also mediation, a more casual way to settle disputes. In mediation, the mediator promotes discussion between the two sides, but does not have the power to impose a solution. Mediation is preferred as a way to resolve conflicts in their early stages, before the parties get a chance to become adversaries.

If mediation is attempted, both parties should agree beforehand that no records of the mediation be kept and that what occurs during mediation is not intended to affect subsequent arbitration or litigation, should such actions become necessary.

Sec. 1416

Warranties

Warranties specified in the contract documents are often vague or ineffectual, particularly as they apply to mechanical and electrical components in the project. By their nature, warranties for such equipment often contain explicit statements that require that certain conditions (such as regular servicing and maintenance by qualified persons) be in effect if coverage is to be afforded.

Servicing and maintenance of many items or equipment in the manner required to validate most warranties is usually beyond the capability of most school facility maintenance staff members. Consideration of separate contracts for skilled servicing and maintenance of many of the components of a new facility combined with extended warranty periods for the components would be well advised. Be certain to discuss this matter with your design professionals.

Sec. 1417

Substantial Completion

Substantial completion is the point in time at which the school district may occupy the entire project or a designated portion thereof for the use for which it was intended.

When the contractor determines that the work of the project or a designated portion thereof acceptable to the school district is substantially complete, he shall be required to prepare for submission to the prime designer a list of items to be completed or corrected.

Upon receipt of this list, the prime designer and the school district's authorized representative should inspect the work to confirm substantial completion.

Once it is agreed that the work of the project has been substantially completed, the prime designer will prepare a Certificate of Substantial Completion which shall:

A. Establish the date of substantial completion.

B. State the responsibilities of the school district and the contractor for maintenance, heat, utilities and insurance.

C. List the items to be completed or corrected.

D. Fix the time within which the contractor shall complete or correct the items listed.

The prime designer then submits the Certificate of Substantial Completion to the school district and the contractor for their written acceptance of the responsibilities assigned to them.

The date of substantial completion is the start of the one year period wherein the contractor is obligated to correct work which is found to be defective or not in accordance with the contract documents.

Sec. 1418

Claims for Damages/ Liquidated Damages

A. Claims for Damages:

When the school district specifies an exact time for completing the construction of a facility, it may claim damages resulting from the contractor's failure to perform on time. The courts will demand evidence of damages resulting from the tardy performance.

Special damages could include rented classroom space, transportation of furniture to the rented spaces, storage charges for furniture and equipment delivered but not installed on school property, and any other expenses caused by the contractor's failure to perform within a specified time. School districts are obligated under the general rule of law to mitigate any damages.

Damages will not be awarded if it is judged that the terms of agreement have been substantially performed. When a facility can be put to the use for which it was intended even though comparatively minor items remain unfinished to make the building conform to plans and specifications, substantial performance may be satisfied.

B. Liquidated Damages:

Occasionally, an arbitrary amount of money is designated as a pre-agreed upon sum to be assessed the contractor for each day after the specified time for completion that the school district is unable to utilize the facility. If this method of assessing liquidated damages is used, the school district may not pursue claims as discussed in paragraph "A" above.

The amount per day of liquidated damages to be assessed must be based upon an actual or reasonable estimated cost to the school district for inability to use the facility (unreasonable sums will not be enforceable) and the amount must be clearly stipulated in the bidding documents and the construction contract (agreement). It must be clear that a penalty is not to be extracted from the contractor.

When projects are constructed under the separate contract system, liquidated damages are difficult to assess due to the independent responsibilities of the several contractors.

Sec. 1419

Final Completion and Acceptance

When the contractor determines that the work of the project has been fully completed, the contractor shall submit written certification that:

A. The contractor has reviewed the contract documents.

B. The contractor has inspected the project regarding compliance with the contract documents.

C. Work has been completed in compliance with the contract documents.

D. The project is completed and ready for final inspection.

The prime designer and the school district's authorized representative shall then promptly make such final inspection. If discrepancies are found or work which is defective or not in compliance with the contract documents, such should be immediately brought to the attention of the contractor for correction prior to final acceptance.

If the prime designer finds the work acceptable and complete under the terms of the contract documents, the prime designer shall so notify, in writing, the school district and request that the contractor prepare and submit the "Project Closeout Submittals" which include:

A. Project record documents or as-built drawings.

B. Operation and maintenance manuals and data.

C. Guarantees, warranties and bonds.

D. Keys and keying schedule.

E. Spare parts and maintenance materials (when required).

F. Evidence of compliance with requirements of governing authorities including:

   1. Certificates of Inspection.
   2. Certificate of Occupancy.
   3. Affidavits of Wages Paid.

G. Certificate of insurance for products and completed operations.

H. Contractor's affidavit of payment of debts and claims.

I. Contractor's release or waiver of liens.

J. Separate releases or waivers of liens for subcontractors, suppliers and others with lien rights against school district property together with a list of those parties.

K. Notice of consent of surety to release of final payment.

In addition, the contractor shall prepare a "Final Adustment of Accounts" which shall include:

A. Original contract sum.

B. Additions and deductions resulting from:

    1. Previous change orders.

    2. Cash allowances (not allowed if state is participating in funding).

    3. Unit prices.

    4. Other adjustments.

    5. Deductions for uncorrected work.

    6. Penalties and bonuses.

    7. Deductions for liquidated damages.

    8. Deductions for reinspection payments.

C. Total contract sum, as adjusted.

D. Previous payments.

E. Sum remaining due.

Upon review of the "final adjustment of accounts", the prime designer shall prepare a final change order reflecting approved adjustments to the contract sum not previously made by change orders.

After completion of the "project closeout submittals" and the "final adjustment of accounts", the contractor shall submit to the prime designer his final application for payment. The prime designer will then issue a final certificate for payment to the school district.

When the school district receives written notification from the prime designer that the work is acceptable and complete under the terms of the contract, it shall officially accept the work by adoption of a school board resolution stating that the work of the contract has been completed satisfactorily. If there is more than one prime contract for the work of the project, a separate resolution must be adopted for each contract.

Sec. 1420

Final Payment

Final payments on contracts cannot be made or released until after thirty days have elapsed following the completion of the contract and final acceptance of the work by the school district board of directors.

After the expiration of the thirty day period, final payments can be made or released upon receipt of properly executed invoice vouchers and the following supporting documents:

A. Letter of inspection and acceptance of the work addressed to the school district board of directors from the prime designer.

B. Adoption of a school board resolution officially accepting the work as completed satisfactorily.

C. Certification from the prime designer stating the final amount due and payable to the contractor.

D. Contractor and subcontractors' affidavit of wages paid bearing certification of the Director of the Department of Labor and Industries.

E. Certification by the school district to the Superintendent of Public Instruction that no liens have been filed or, a certified list of all valid liens together with one copy of each lien that has been filed. In the event that foreclosure action has been taken upon a lien, one copy of all correspondence relative to the foreclosure action shall be furnished the S.P.I.

Upon receipt of the prime designer's and the school district's notices of acceptance of the work, the S.P.I. will notify the State Department of Revenue, State Department of Labor and Industries and the State Department of Employment Security that the construction contracts have been completed. These state agencies, upon determination that all state taxes and premiums due and payable on the contracts have been paid in full, will certify such payments to the S.P.I., who will send a copy of each certification to the school district at the time final payment is made or retainage released from the escrow account.

If state taxes or premiums have not been paid, or if the claims of material-men and laborers which have been filed have not been discharged, monies may still be withheld in amounts equal to such unpaid taxes, premiums, claims or liens together with a sum sufficient to defray the costs and attorney fees which may be incurred.

School district officials or escrow agents shall not make any payment from a retained percentage fund or release any retained percentage escrow account to any person, until written instructions to do so have been received from the designated representative of the Superintendent of Public Instruction.

Appendix

A. RESOURCES:

1. GUIDE FOR PLANNING EDUCATIONAL FACILITIES
   prepared by the:
   Council of Educational Facility Planners, International
   29 West Woodruff Avenue
   Columbus, Ohio 43210

B. S.P.I. ASSISTANCE AVAILABLE:

Contact the Facilities and Organization Section, Division of Financial Services, Office of the Superintendent of Public Instruction, 7510 Armstrong St. S.W. (Mail Stop FG-11), Tumwater, Washington 98504, for consultant services to assist your school district.

B. ACKNOWLEDGEMENTS:

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   Manual Sub-Committee of the School Facilities Cost/Advisory Board
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   Olson-Rowe, Architects
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SCHOOL FACILITIES

MAINTENANCE
and
OPERATION

15

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 15

MAINTENANCE AND OPERATION

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

MAY, 1981

Table of Contents

Sec. 1501 Occupancy and Use

Sec. 1502 Orientation

Sec. 1503 The Planners' Role In Orientation

Sec. 1504 User Orientation Program

Sec. 1505 Public Information Programs

Sec. 1506 User's Manual

Sec. 1507 Planned Maintenance

Sec. 1508 Establishing A Planned Maintenance Program

Sec. 1509 Implementing Planned Maintenance

Appendix

Sec. 1501

Occupancy and Use

The construction of the new school facility has been completed and it is now ready to perform its service function for the school district's educational program. The users of the facility must be oriented to its capabilities and educational functions and those persons responsible for operating and maintaining the physical plant must be familiarized with the technical requirements of the various components of the structure.

The capital expenditure invested in the initial construction of the school facility represents only a portion of the cost which the school district will expend during the life of the facility. Effective efforts in orientation and planned maintenance programs will enhance the rewards to the school district for its investment through more cost-effective utilization and operation.

Sec. 1502

Orientation

A proper orientation program is the most productive aspect of opening a new school facility. Orientation must be offered to the administration personnel, faculty, staff, maintenance and operating personnel, students and members of the community to facilitate everyone's adaptation to the facility. Effective program implementation may be unobtainable without demonstrating the capabilities of the facility to its users.

A variety of orientation programs should be developed. Two main categories of such programs are:

A. User orientation - directed at the needs of persons who will work in the facility.

B. Public information - intended to promote familiarity with the facility as a community resource.

Sec. 1503

The Planners' Role in Orientation

The school administrator, educational consultant and the prime designer are responsible for initiating the orientation. Although user participation in the design process has gained acceptance, the prime designer's participation in the initial occupancy is relatively new. The unfortunate result is that the school administrator, faculty and staff must face the challenges of adjusting to a new facility without professional help to smooth the transition period. Thus, the potential of many advantageous design features may never be realized because the users do not understand the purpose and ideal operation of the facility.

Sec. 1504

User Orientation Program

Detailed orientation sessions directed specifically at answering questions of school administrators, maintenance and operating personnel, faculty and staff can take the form of:

A. A building tour - conducted by the design team to explain project background, design concepts, and intended use.

B. In-service programs for teachers - concentrate on the relationship between the faculty and the educational program and the ways the facility can be used to realize program goals.

C. Building and equipment review sessions - allow the prime designer, consultants and manufacturer's representatives to demonstrate and discuss the operation and maintenance of various systems, equipment, and elements.

Sec. 1505

Public Information Programs

Public information programs are normally less detailed than are user orientations. They are designed to promote familiarity with the educational facility rather than in-depth understanding of how the facility can be used. Such programs are important for two reasons: They provide an awareness of how the tax dollar is being spent and an understanding, particularly important for parents, of some aspects of the educational environment in which their children will learn.

The following activities will assist the public information program:

A. Media features (newspaper articles, radio or television programs) which discuss and illustrate the new facility.

B. Brochures with maps, photographs, and text briefly explaining design and educational concepts.

C. Open houses or tours conducted by students who have been briefed about the building and its relation to the education program.

D. Printed material for distribution to visitors interpreting the new facility and program.

Sec. 1506

User's Manual

One orientational tool that is meeting with growing acceptance is the user's manual. It includes three basic types of information:

A. A summary of the project's history and the most influential design concepts.

B. An explanation of how these concepts were implemented in the actual design and major use guidelines.

C. A maintenance and operation section giving technical data on the building systems and components, cleaning instructions, guarantees, etc.

The user's manual is a resource book of use and maintenance information to which users might not otherwise have access when the original facility planners are unavailable. It is recommended that the school district receive five copies of the user's manual and that one of these copies be immediately placed in the school district vault as a permanent record.

Sec. 1507

Planned Maintenance

When you have occupied your new school facility it is in top shape, exactly as you would like to keep it. A planned maintenance program for inspection, maintenance and repair of components on a regular, systematic basis is an essential element to your goals.

Planned maintenance, properly performed, can greatly extend the life and usefulness of your school plant, its equipment, tools and supplies and provide better assurance of pupils' and teachers' safety and health. Improper maintenance can often lead to catastrophic damage.

The responsibility of planned maintenance is discharged through careful management of the sanitary conditions of the facilities, accurate control of temperature and ventilation, watchful care of all the factors of safety, and systematic inspection and care of all the many individual components of the building's systems. A planned maintenance program often utilizes a centralized maintenance and operations department within the school district for accurate record-keeping on all components to facilitate an effective and continuing maintenance and operation program. Accurate and complete records are mandatory to implement effective long and short range planning for this new facility and other future facilities.

The School Facilities and Organization Section of the Office of the Superintendent of Public Instruction can offer consultant assistance in establishment of a planned maintenance program.

Sec. 1508

Establishing a Planned Maintenance Program

The essential steps to establish a planned maintenance program include the following:

A. Identification:
The entire school facility is inventoried and **all** items to be maintained are identified. The user's manual discussed in Section 1505 will be helpful in this inventory.

B. Techniques:
Establish the maintenance procedures to be required for each item and the frequency of performance of such procedures. Be sure to include procedures and frequency which may be required by manufacturer's warranties.

C. Records:
Maintain a cumulative and chronological record of all maintenance performed and of conditions found when maintenance was performed. Be sure to record all unscheduled maintenance such as equipment failures.

D. Summary and Review:
Maintain a performance and reliability summary for all maintained items. This information provides a sound basis for increasing or decreasing maintenance frequencies to prolong life expectancy, reduce down time, increase productivity and reduce operating costs. Additionally, this information can provide reliable data for evaluation of materials and equipment under consideration for incorporation in other school facility projects.

Recent advancements in computer technology offer many opportunities for controlling maintenance, maintaining continuity (even with shifting of key personnel), monitoring warranty information and reducing clerical work. A computer program for planned maintenance must be carefully and thoughtfully designed to be effective.

Any planned maintenance program - whether managed by a computer or pencil - must be continually updated as maintenance is performed.

Sec. 1509

Implementing Planned Maintenance

Many of the most frequently scheduled items of planned maintenance may be regularly performed by the school district's custodial personnel while other items may require technical or mechanical skills and equipment not available to any but the largest districts, if at all. These maintenance items should be performed through "maintenance agreement contracts" negotiated with qualified contractors. These contracts should be prepared by the school district and its appropriate consultants rather than by the vendor. Often, some planned maintenance items require work which should be observed, tested or verified by professional consultants such as mechanical or electrical engineers - do not hesitate to employ qualified professionals to assist your planned maintenance program.

Above all, do not forget that the term "planned maintenance" applies to a huge array of activities varying from emptying wastebaskets and vacuuming carpets to cleaning air filters, calibrating thermostats and servicing operating machinery. Almost every component integrated within your new school facility will need inspection and care to extend its useful life.

Appendix

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SCHOOL FACILITIES

PROJECT EVALUATION

16

SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE OF WASHINGTON

SCHOOL FACILITIES DEVELOPMENT PROCEDURES MANUAL

CHAPTER 16

PROJECT EVALUATION

ISSUED BY

DR. FRANK B. BROUILLET
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OLYMPIA, WASHINGTON

MAY, 1981

Table of Contents

Sec. 1601 Results of the Project

Sec. 1602 Post-Occupancy Evaluation

Sec. 1603 Conclusion

Appendix

Sec. 1601

Results of the Project

Once the new facility has been completed, the occupants and the community have been oriented, and the program has been implemented for an effective period of time, it is advantageous to review the results of the planning, design and construction efforts. This review should consist of a documented examination and evaluation of the planning process and the resultant facility including the way it operates as an architectural entity and the way it promotes or hinders realization of the educational goals as established at the onset of the project (Chapter 2). It will also serve as a valuable tool in assessing the abilities of the design team in conforming to the requirements of the educational specifications (Chapter 7) and in administering the construction process.

Many school districts are happy or unhappy about their school plant facilities but don't know why. If they don't know why they are unhappy, chances are pretty good that the same mistakes that caused their dissatisfaction may be repeated on their next building project. Key participants in the completed project may not be available for consultation when the next project is undertaken. A comprehensive written evaluation is a valuable resource for the school district. This evaluation is called a "Post-Occupancy Evaluation".

Sec. 1602

Post-Occupancy Evaluation

Aspects of a Post-Occupancy Evaluation which are critical to its effectiveness are:

A. A system or form for conducting the evaluation.

B. Identification of items to be evaluated. These often include:

  1. User satisfaction with the facility.
  2. School district satisfaction with the design team.
  3. Project's contribution to realization of the educational goals and school district's master plan.
  4. Conformance with educational specifications.
  5. Spatial allocations and sufficiency.
  6. Efficiency of operation.
  7. Maintenance efficiency and life-cycle economy.
  8. Conformance with budgetary restraints.
  9. School district satisfaction with the contractor.

C. Thoroughness of information collection.

D. Participants in evaluation which should include:

  1. School district superintendent or project representative.
  2. Prime designer and any appropriate design consultants.
  3. Occupants - teachers and administrators who use the facility and children who attend the facility.
  4. School district maintenance official and those other persons charged with maintaining the facility.

Post-occupancy evaluations are most effective when they are conducted approximately one year after initial occupation of the facility. Additional evaluations in later years are often valuable. It is not unusual for effective evaluations to be accomplished several times during the life of the facility.

Participants in the post-occupancy evaluation normally meet at the facility in question, conduct a walk-through inspection of the facility, jointly consider previously collected data regarding the facility and conduct thorough discussions regarding those items previously identified for evaluation. Provisions should be made by the school district to fully record and document all positive and negative aspects of the facility as identified in the evaluation process. It is suggested that the completed final evaluation document be maintained on file in the school district offices and with the Office of the Superintendent of Public Instruction.

Sec. 1603

Conclusion

At this point, it should be evident that the planning process has come full circle. The process that began with an assessment of needs and evaluation of existing facilities (see Chapter 2) again resumes appraisal of existing facilities.

Appendix

A. RESOURCES:

1. STANDARD SPECIFICATIONS FOR MUNICIPAL PUBLIC WORKS CONSTRUCTION
   prepared by the
   Washington State Chapter
   American Public Works Association

B. S.P.I. ASSISTANCE AVAILABLE:

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